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3•2•1 and 3•2•1 GS Home Entertainment System Differences

The 3•2•1 and 3•2•1 GS (Gemstone) home entertainment systems share the same basic components. The bass module and bass module cable are identical. The console uses the same electronic parts and most of the same chassis parts. The differences in the console are the console firmware and the color of the silver front bezel and DVD drawer bezel. The product label on the console reads "Model AV3-2-1GS Media Center". The arrays used on the two systems are different. The standard 3•2•1 system uses the larger 60mm driver arrays, and are only available in graphite. The 3•2•1 GS arrays utilize the smaller 50mm Jewel Cube® driver. These arrays are available in graphite and silver.

Software Update Information

The firmware located in the main PCB and display PCB's microprocessors can be updated by means of an update CD. These update CDs are available from Bose® Product and Technical Support at 800-233-4408 (Bose service centers only) or 800-367-4008 (Bose system owners) and are automatically sent out to customers who have purchased the 3•2•1 system and filled out and returned the software update card that came with their system literature. Service centers can also download an ISO image of the latest firmware update file from the Service web site at <http://serviceops.bose.com> and burn it onto a CD for use as an update disc.

Once you have the CD, simply power up the console, press the stop/eject button on the console, place the update CD into the drawer and close it and the update process will begin. When the process is complete you may remove the update CD.

Check to verify that both the display PCB firmware and the main PCB firmware have updated properly. You can do this by using the TAP commands or by a series of button presses on the console front panel. Both of these methods are outlined later in this service manual.

Accessories

The Bose Model 3•2•1 and 3•2•1 GS home entertainment system shelf speakers are compatible with Bose mounting accessories, including the UB-20 wall brackets, UFS-20 floor stands and UTS-20 table stands.

CAUTION: The Bose 3•2•1 and 3•2•1 GS Home Entertainment Systems contain no user-serviceable parts. To prevent warranty infractions, refer servicing to warranty service stations or factory service.

PROPRIETARY INFORMATION

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF BOSE CORPORATION WHICH IS BEING FURNISHED ONLY FOR THE PURPOSE OF SERVICING THE IDENTIFIED BOSE PRODUCT BY AN AUTHORIZED BOSE SERVICE CENTER OR OWNER OF THE BOSE PRODUCT, AND SHALL NOT BE REPRODUCED OR USED FOR ANY OTHER PURPOSE.

WARRANTY

The Bose 3•2•1 and 3•2•1 GS Home Entertainment Systems are covered by a limited 1-year transferable warranty.

SAFETY INFORMATION

1. Parts that have special safety characteristics are identified by the  symbol on schematics or by special notes on the parts list. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the unit to the customer. Use the following checks to perform these measurements:

A. Leakage Current Hot Check-With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 "Leakage Current for Appliances" and Underwriters Laboratories (UL) 6500 / IEC 60056 paragraph 9.1.1. With the unit AC switch first in the ON position and then in OFF position, measure from a known earth ground (metal waterpipe, conduit, etc.) to all exposed metal parts of the unit (antennas, handle bracket, metal cabinet, screwheads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milliamp. Reverse the unit power cord plug in the outlet and repeat test. **ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE UNIT TO THE CUSTOMER.**

B. Insulation Resistance Test Cold Check-(1) Unplug the power supply and connect a jumper wire between the two prongs of the plug. (2) Turn on the power switch of the unit. (3) Measure the resistance with an ohmmeter between the jumpered AC plug and each exposed metallic cabinet part on the unit. When testing 3 wire products, the resistance measured to the product enclosure should be between 2 and infinite MOhms. Also, the resistance measured to exposed input/output connectors should be between 4 and infinite MOhms. When testing 2 wire products, the resistance measured to exposed input/output connectors should be between 4 and infinite MOhms. If it is not within the limits specified, there is the possibility of a shock hazard, and the unit must be repaired and rechecked before it is returned to the customer.

ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICE HANDLING

This unit contains ESDS devices. We recommend the following precautions when repairing, replacing or transporting ESDS devices:

- Perform work at an electrically grounded work station.
- Wear wrist straps that connect to the station or heel straps that connect to conductive floor mats.
- Avoid touching the leads or contacts of ESDS devices or PC boards even if properly grounded. Handle boards by the edges only.
- Transport or store ESDS devices in ESD protective bags, bins, or totes. Do not insert unprotected devices into materials such as plastic, polystyrene foam, clear plastic bags, bubble wrap or plastic trays.

SPECIFICATIONS

System Specifications:

Power Rating:	USA/Canada: 120VAC, 60 Hz, 300W Europe/UK/Aus: 220-240VAC, 50/60 Hz, 300W Japan: 100VAC, 50/60 Hz, 300W Dual Voltage: 115/230VAC, 50/60 Hz, 300W
Console Inputs:	AUX, Video 1, Video 2
Console Outputs:	1 Audio Output (AUX), 1 Composite Video Output and 1 S-Video Output
External Antennas:	FM, 75 Ohm, 3.5 mm mono connector AM Loop, 2.5 mm mono connector
Maximum Ambient Temperature:	40 degrees C
Maximum Product Power Dissipation:	47 Watts
Low Frequency Cut-off (typical):	3•2•1 Array Cube: 180 Hz 3•2•1 GS Array Cube: 212 Hz Bass Module: 50 Hz
Weight:	3•2•1 Packed System: 35.5 lb (16.1 kg) 3•2•1 GS Packed System: 32.0 lb (16.1 kg) Console: 7.0 lb (2.7 kg) Bass Module: 26.5 lb (12.0 kg) 3•2•1 Arrays, each: 3.0 lb (1.4 kg) 3•2•1 GS Arrays, each: 1.1 lb (0.5 kg) IR Remote: 0.26 lb (0.1 kg)
Dimensions:	Console: 9.8 x 12.8 x 3.9 inches (250 mm x 326 mm x 99.5 mm) Bass Module: 14 x 7.5 x 20.1 inches (35.6 cm x 18.4 cm x 51.1 cm) Bass Module internal volume: 1205 cubic inches (19.7 liters) 3•2•1 Arrays: 7.9 x 5.3 x 3.4 inches (200 mm x 134 mm x 86 mm) 3•2•1 GS Arrays: 5.6 x 2.6 x 4.2 inches (142 mm x 65 mm x 106 mm) IR Remote: 2.6 x 8.9 x 1.2 inches (65 mm x 204 mm x 30 mm)

Console Specifications:

Compression Formats Supported for discs inserted into the DVD/CD drive:	AC-3, MP3, DTS, MPEG-1 (VCD), MPEG-2
Compression Formats NOT Supported for discs inserted into the DVD/CD drive:	SACD Format (Sony), MLP

SPECIFICATIONS

Console Specifications (continued):

Digital Formats Supported for sources connected to the digital inputs: AC-3, DTS, PCM

CD/DVD Drive Performance:

Interface: ATAPI

Data Transfer Rate: Sustained Mode (DVD): 2704-6536 kbs
Sustained Mode (CD-ROM mode 1) 2069-4800 max kbs

Access Time: DVD-ROM CD-ROM (32x)
Average Random Seek 105ms-95ms
Average Random Access 135ms-95ms
Average Full Stroke Access 230ms-160ms

Drive Physical Characteristics: Weight: 2.2 lbs (0.98 kg)
Dimensions: 1.6" H x 5.7" W x 7.6" D
(41.5 mm x 146 mm x 193 mm)

Power Requirements: +12 Vdc, +5 Vdc

Distortion and Noise: -78 dB THD+N, unweighted,
22-22kHz for a 1kHz signal at -1 dB

-90 dB THD+N, unweighted,
22-22kHz for a 1kHz signal at -10 dB

Dynamic Range: -90 dB THD+N, unweighted,
22-22kHz for a 1kHz signal at -60 dB

Distortion: < 0.1% @ 0.5 W

Output Noise: < 400 mVrms, A-weighted

Noise when Muted: < 400 uVrms, A-weighted

DC Offset: < 50 mVdc, all channels
Channel Balance: +/- 1.5 dB for all volume settings
Channel Separation: > 40 dB @ 1 kHz, > 30 dB @ 10 kHz, stereo mode

Analog Input Characteristics:

Maximum source signal for ADC full scale: 2 Vrms
Minimum source signal for ADC full scale: 200 mVrms

Input Impedance: 100k Ohms nominal +/- 10%
Input Coupling: AC coupled to remove source DC offset

SPECIFICATIONS

Console Specifications (continued):

Analog Output (Aux) Characteristics:

Output level from 0 dB Full Scale:	1 Vrms at less than 0.05% THD
Gain from CODEC 0 dB Full Scale:	2 Vrms (-6 dB +/- 1 dB)
Output level from FM (mono, 75 kHz dev):	0.3 Vrms nominal
Output level from AM (30% mod, 100 dBuV):	0.2 Vrms nominal
Source Impedance at 1 kHz:	1560 Ohms nominal, +/- 10%
Output Coupling:	AC

S/PDIF Coaxial Input Characteristics:

Sampling Rates Accommodated:	44.1 kHz, 48 kHz
Number of bits recognized:	16, 20 and 24
Input Impedance:	75 Ohms +/- 10%
Error Checking and Handling:	Implements full error checking and handling, considering CRC, validity bit, loss of lock, parity error, and bi-phase error.
Input Coupling:	AC

Optical S/PDIF Input Characteristics:

Sampling Rates Accommodated:	44.1 kHz and 48 kHz
Number of bits recognized:	16, 20 and 24
Error Checking and Handling:	Implements full error checking and handling, considering CRC, validity bit, loss of lock, parity error, and bi-phase error.
Input Connector:	TOSLINK
LFE Channel Volume Control:	+12 dB to -12 dB gain range from the bass tone control
Film EQ:	Selectable on or off
Tone Controls:	Treble Control: Range of -12 to +12 dB in 11 steps Bass Control: Range of -12 to +12 dB in 18 steps

FM Tuner Performance (per IHF-T-200):

Channel Spacing:	US/Can/Dual Voltage: 200 kHz Euro/UK/Aus: 50 kHz Japan: 100 kHz
Band Limits:	US/Can/Dual Voltage: 87.7 MHz - 107.9 MHz Euro/UK/Aus: 87.50 MHz - 108.00 MHz Japan: 76.00 MHz - 90.00 MHz
De-emphasis:	US/Can/Dual Voltage: 75 usec Euro/UK/Aus/Japan: 50 usec

SPECIFICATIONS

Console Specifications (continued):

FM Tuner Performance (per IHF-T-200) (continued):

50 dB Quieting Sensitivity:

Mono:

US/Can/Dual Voltage: 15 dBf nom/19 dBf limit

Euro/UK/Aus/Japan: 20 dBf nom/25 dBf limit

Stereo:

US/Can/Dual Voltage: 38 dBf / limit 42 dBf

Euro/UK/Aus: 42 dBf / limit 47 dBf

Japan: 38 dBf / limit 42 dBf

Signal to Noise Ratio @ 65 dBf:

74 / limit 69 dB mono, 70 / limit 65 dB stereo

Harmonic Distortion @ 65 dBf:

Mono 0.3% / limit 0.6%, stereo 0.4% / limit 0.8%

Capture Ratio @ 45 dBf:

2.0 dB nominal / limit 3.0 dB

AM Rejection @ 45 dBf:

60 dB nominal / 50 dB limit

Adjacent Chan Selectivity (200 kHz):

13 dB nominal / 10 dB limit @ 45 dBf

Alternate Chan Selectivity (400 kHz):

US/Can/Dual/Japan: 70 dB nom/65 dB limit @ 45 dBf

Euro/UK/Aus: 75 dB nom/70 dB limit @ 45 dBf

Image Rejection:

US/Can/Dual/Japan: 45 dB nominal / 40 dB limit

Euro/UK/Aus: 85 dB nominal / 70 dB limit

RF Intermodulation:

65 dB nominal / 55 dB limit

Sub-carrier Product Rejection:

55 dB nominal / 45 dB limit

Frequency Response:

30 Hz to 15 kHz +/- 1.0 dB nominal, +/- 2.0 dB limit

Stereo Channel Separation @ 1 kHz:

35 dB nominal / 25 dB limit

Auto Stop Level (seek):

30 dBf +/-5

Mono Threshold:

40 dBf +/-5

Stereo Threshold:

42 dBf +/-5

AM Tuner Performance (per IHF-T-100):

Channel Spacing:

US/CAN/DUAL: 10 kHz

Euro/UK/Aus/Japan: 9 kHz

Band Limits:

US/CAN/Dual: 530 kHz - 1710 kHz

Euro/UK/Aus: 522 kHz - 1611 kHz

Japan: 531 kHz - 1629 kHz

Usable Sensitivity (mono):

48 dB nominal / 54 dB limit

Adjacent Channel Selectivity:

23 dB nominal / 18 dB limit

Alternate Channel Selectivity:

30 dB nominal / 25 dB limit

Image Rejection:

40 dB nominal / 35 dB limit

Auto Stop Level:

58 dBuV/m +/- 5 dB

Signal to Noise Ratio:

50 dB nominal / 45 dB limit

Distortion:

0.6% nominal / 1.4% limit

Frequency Response:

220 Hz: -3 dB nominal / -6 dB limit

2.0 kHz: -3 dB nominal / -6 dB limit

Bass Module Characteristics:

Woofer Impedance:

Single woofer at 2 Ohms nominal DC resistance

Bass Amplifier Distortion Level:

< 0.4% THD @ 0.5W

Bass Amplifier Output Noise:

< 2 mVrms, unweighted

Bass Amplifier DC Offset:

< 50 mVdc

PART LIST NOTES

1. This part is not normally available from Customer Service. Approval from the Field Service Manager is required before ordering.
2. The individual parts located on the PCBs are listed in the Electrical Part List.
3.  This part is critical for safety purposes. Failure to use a substitute replacement with the same safety characteristics as the recommended replacement part might create shock, fire and/or other hazards.

PACKAGING PART LIST

3•2•1 Home Entertainment System Packaging View (see Figure 1)

Item Number	Description	Part Number	Note
1	COMMITMENT LETTER	251001	
2	SHT, QUICKSTART, MULTI-LANGUAGE	267520	
3	MANUAL, OWNERS, 3 LANG MANUAL, OWNERS, 5 LANG	256951 256952	
4	CARD, INFO, WARRANTY, MULTI LANG	181460	
5	CARD, REPLY 3.2.1 (US, DUAL)	268158	
6	ADDRESS PAGE, BOSE	259434	
7	BAG, POLY, 14.38 x 9.87 x 2 mil	103351	
8	PACKING, EPS, CONSOLE	263123	
9	ACCY KIT, 3.2.1, 230V, GRPHT (EURO, UK) ACCY KIT, 3.2.1, 100V, GRPHT (JAPAN, AUS, DUAL)	260094-021 260094-001	
10	CONSOLE ASSY, 120V, GRPH, RGN 1, (US/CAN) CONSOLE ASSY, 115/230V, GRPH, RGN 4, (DUAL) CONSOLE ASSY, 230V, GRPH, RGN 2, (EURO) CONSOLE ASSY, 230V, GRPH, RGN 2, (UK) CONSOLE ASSY, 230V, GRPH, RGN 3, (S.E. ASIA) CONSOLE ASSY, 230V, GRPH, RGN 4, (AUS,S. AMER) CONSOLE ASSY, 230V, GRPH, RGN 5, (AFRICA, RUSS) CONSOLE ASSY, 230V, GRPH, RGN 6, (CHINA) CONSOLE ASSY, 100V, GRPH, RGN 2, (JAPAN) CONSOLE ASSY, 115/230V, GRPH, RGN 2, (DUAL)	256960-111C 256960-114C 256960-212C 256960-2123 256960-213C 256960-214C 256960-215C 256960-216C 256960-312C 256960-612C	1, 2
11	PACKING, INSERT, EPS, BASS BOX	260091	
12	BAG, POLY, 13.5 x 35 x 9.5 x 2.5 mil	114522	
13	ASSY, BASS BOX, 120V, GRPH (US/CAN) ASSY, BASS BOX, 230V, GRPH (EURO, UK, AUS) ASSY, BASS BOX, 100V, GRPH (JAPAN) ASSY, BASS BOX, 115/230V, GRPH (DUAL)	255199-1109 255199-2109 255199-3119 255199-6109	1, 2
14	ARRAY ASSEMBLY (W/GRILLE), GRAPHITE	255198-001	
15	CARTON, RSC, PRINTED	255183-01	
16	LINE CORD, 120V, POL, DET, BLK (US/CAN, DUAL) LINE CORD, 230V, DETACH, 96" (EURO) LINE CORD, 220V, DETACH (UK) LINE CORD, 240V, DETACH (AUS) LINE CORD, 100V, POL, DET, BLK (JAPAN)	260082-001 148203 134725 134726 260086-001	3 
-	PACKING, EPS, CONSOLE	254576	
-	DECLARATION OF CONFORMITY	255192	
-	DVD PACK, 3•2•1 IN-BOX (US, DUAL)	269252	

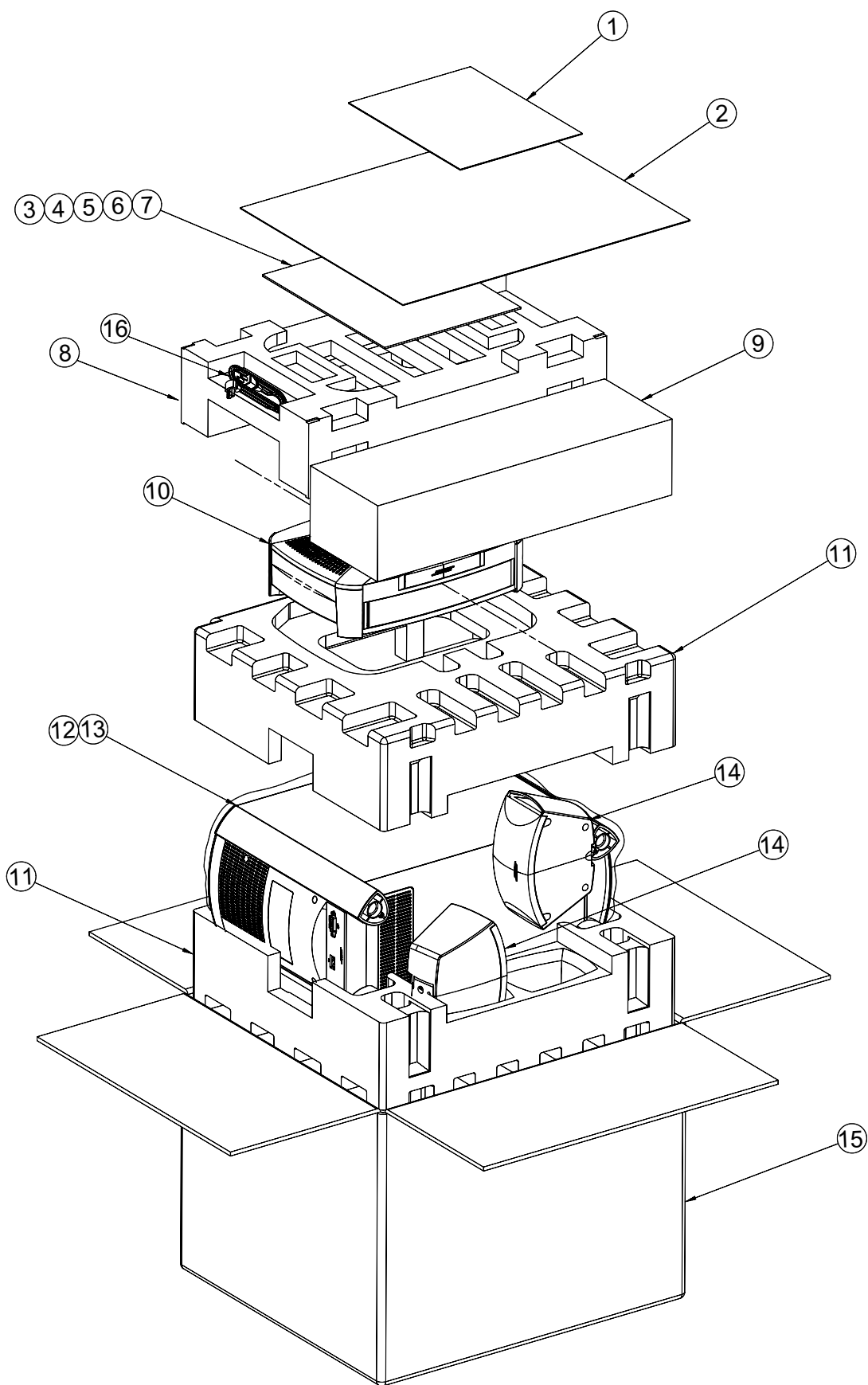


Figure 1. 3•2•1 Home Theater System Packaging View

PACKAGING PART LIST

3•2•1 GS (Gemstone) Home Entertainment System (see Figure 2)

Item Number	Description	Part Number	Note
1	COMMITMENT LETTER	251001	
2	SHEET, QUICKSTART, 321GS	271981	
3	OWNERS MANUAL, 3 LANG, E321	271966	
	OWNERS MANUAL, 5 LANG, E321	271967	
4	CARD, REGISTRATION AND WARRANTY	262933	
5	SHEET, SLIP, COMPONENT AUDIO	255805	
6	ADDRESS PAGE, BOSE	259434	
7	BAG, POLY, 14.38 x 9.87 x 2 mil	103351	
8	ACCESSORY KIT, E321, GRAPHITE	269985-001	
	ACCESSORY KIT, E321, SILVER	269985-003	
	ACCESSORY KIT, E321, GRAPHITE (EURO, UK)	269985-021	
	ACCESSORY KIT, E321, SILVER (EURO, UK)	269985-023	
9	LINE CORD, 120V, POL, DET, BLK (US, DUAL)	260082-001	3
	LINE CORD, 230V, DETACH, 96" (EURO)	148203	
	LINE CORD, 230V, DETACH (UK)	134725	
	LINE CORD, 230V, DETACH (AUS)	134726	
	LINE CORD, 100V, POL, DET, BLK (JAPAN)	260086-001	
10	CONSOLE ASSY, 120V, GRPH, RGN 1 (US)	269995-111C	1, 2
	CONSOLE ASSY, 120V, GRPH, RGN 4 (DUAL)	269995-114C	
	CONSOLE ASSY, 230V, GRPH, RGN 2 (EURO/UK)	269995-2123	
	CONSOLE ASSY, 230V, GRPH, RGN 3 (S.E. ASIA)	269995-213C	
	CONSOLE ASSY, 230V, GRPH, RGN 4 (AUS)	269995-214C	
	CONSOLE ASSY, 100V, GRPH, RGN 2 (JAPAN)	269995-312C	
11	PACKING, INSERT, EPS, BASS BOX	260091	
12	BAG, POLY, 13.5 x 35 x 9.5 x 2.5 mil	114522	
13	ASSY, BASS BOX, 120V, GRPH (US)	255199-1109	1, 2
	ASSY, BASS BOX, 230V, GRPH (EURO, UK, AUS)	255199-2119	
	ASSY, BASS BOX, 100V, GRPH (JAPAN)	255199-3119	
	ASSY, BASS BOX, 115/230V, GRPH (DUAL)	255199-6119	
14	PACKING TRAY, INSERT, THERMOFORM (ARRAYS)	269909-001	
15	ARRAY, ASSY, GRAPHITE	269990-001	
	ARRAY, ASSY, SILVER	269990-003	
16	CARTON, RSC	271611-001	
-	MANUAL, OWNERS, 3.2.1 SYSTEM, 3 LANG	256951	
-	CARD, 3.2.1 UPDATE (US, DUAL)	268158	
-	DVD PACK / 3.2.1 IN-BOX (US, DUAL)	269252	
-	BAG, HDPE, 11 X 14 X 1 MIL	262363	

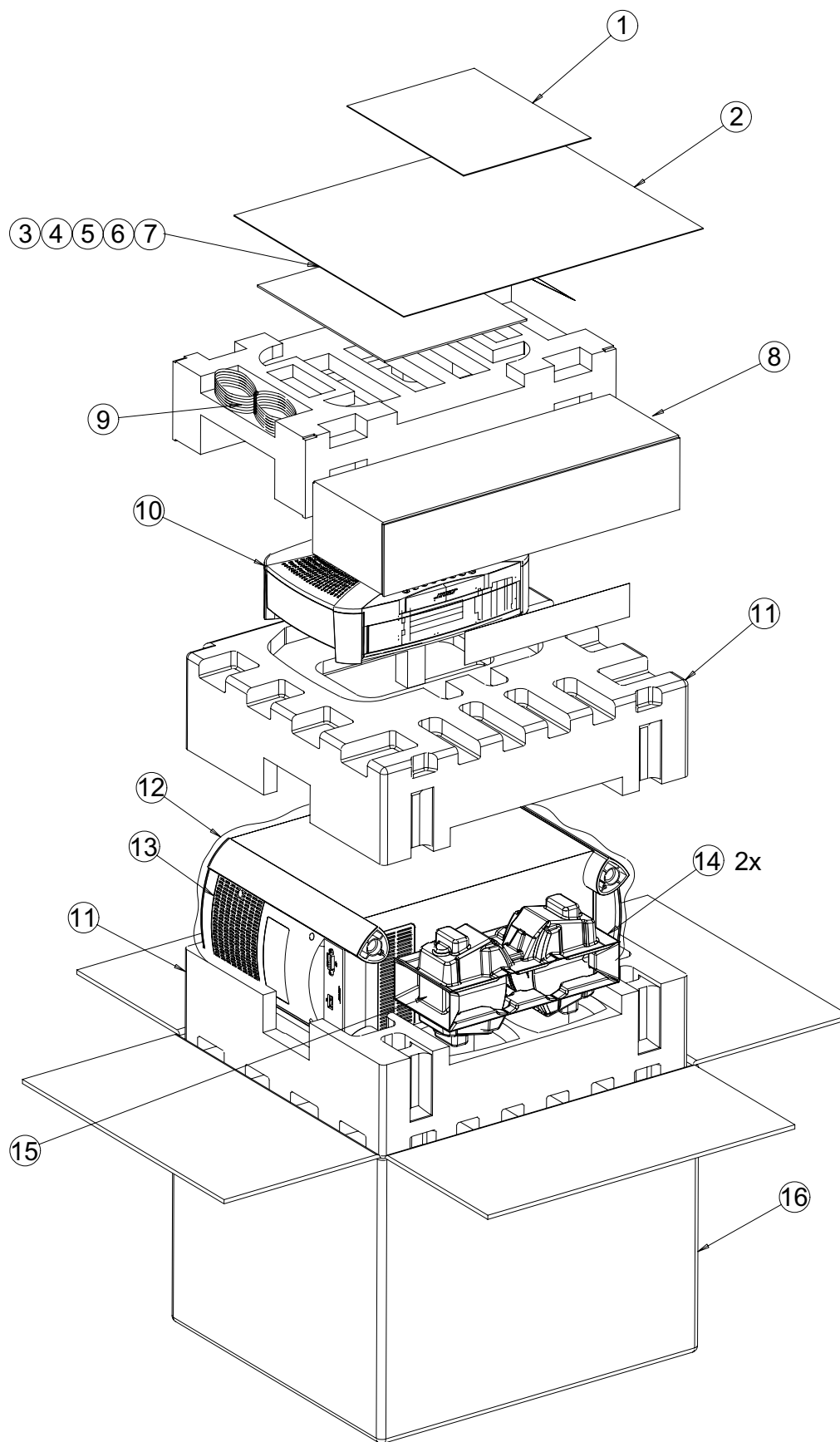


Figure 2. 3•2•1 GS (Gemstone) Home Theater System Packaging View

PART LIST

3•2•1 and 3•2•1GS Home Theater Systems Accessory Kit (see Figure 3)

Item Number	Description	Part Number	Note
1	REMOTE, 321, IR, GRAPHITE REMOTE, 321, IR, PLAT WHT (EURO) REMOTE, 321GS, IR, GRAPHITE REMOTE, 321GS, IR, PLAT WHT (EURO)	259820-001 259820-002 270625-001 270625-002	3 ⚠
2	CABLE, AUDIO, DUAL RCA	185931-01	
3	FM DIPOLE ANTENNA	261619-001	
4	BUMPER, RECESSED, FOOT, .88"	142839	
5	FOOT, CLEAR, .312 X 0.85	178321-04	
6	BATTERY, CARBON, AA SIZE	147538	
7	BAG, POLY, 3 X 3 MIL	194392	
8	PACKING, TRAY, ACCY, PET 30	260454-01	
9	CABLE, VIDEO, 6', YL	183200	
10	ANTENNA, ASSY, AM, CD20	199824-002	
11	PACKING, INSERT, SCORED SHT	260096	
12	CABLE, ARRAY, 321, 9 PIN, GRAPHITE CABLE, ARRAY, 321GS, 9 PIN, GRAPHITE CABLE, ARRAY, 321GS, 9 PIN, SILVER	255123-001 269984-001 269984-003	
13	CABLE, BASS MODULE, 15 PIN, GRAPHITE	255122-001	
14	CARTON, D/C, ACCY KIT W/ART	260456-01	
-	SCART CABLE	266221-001	EURO/UK/AUS
-	ANTENNA, ADAPTER, PAL TO 3.5MM, CON	267162	EURO/UK/AUS
-	BATTERY DOOR, REMOTE CONT, GRAPHITE BATTERY DOOR, REMOTE CONT, PLAT WHT	264861-001 264861-002	REPAIR PART ONLY

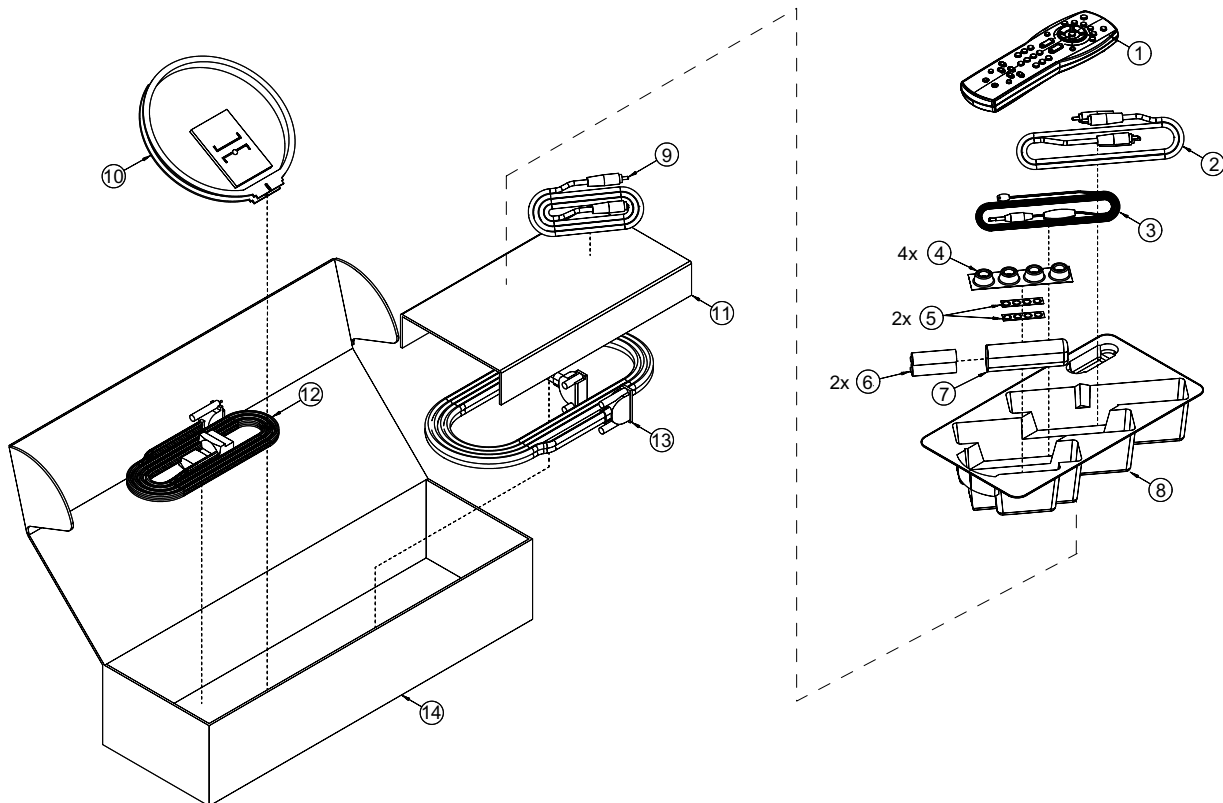


Figure 3. Accessory Kit Exploded View

MAIN PART LIST

3•2•1 and 3•2•1 GS Console Assembly (see Figure 4)

Item Number	Description	Part Number	Qty.	Note
1	LABEL, TOP COVER, GRAPHITE LABEL, TOP COVER, PLAT WHT (EURO)	256946-001 256946-002	1	
2	COVER, CONSOLE, GRAPHITE COVER, CONSOLE, PLAT WHT (EURO)	264482-001 264482-002	1	 3
3	STRAP, DVD (CLAMP)	260462	1	
4	SHIELD, ATA/PI, FORMED METAL, DVD	260472-001	1	
5	DRIVE, DVD ROM, MODEL 1802, US/CAN DRIVE, DVD ROM, MODEL 1802, NON-US	273686-001 or 273686-002 288437 or 289532	1	 3
6	SCREW, M3	260463	2	
7	CABLE, POWER, DVD, 155 MM	267278-155	1	
8	CABLE, RIBBON, ATA/PI, 40 POSITION	256954-090	1	
9	HEATSINK, MAIN	260281	1	
10	CABLE, FLEX, 172 MM, 24 CONDUCTOR	254584-172	1	
11	PAD, THERMAL PHASE CHANGE (AMP IC)	258627	1	
12	CLIP, HEATSINK	262080	1	
13	SCREW, TF, 8-11 X .625", PAN, TORX	256947-10	11	
14	BRACKET, SHIELD, DVD (CASTING)	256949	1	
15	GASKET, FOAM, EMI, 25 MM	262635-025	5	
16	PAD, THERMAL, COMPLIANT, 25 X 25 MM	262078-001	1	
17	PAD, THERMAL, COMPLIANT, 9 X 7 MM	262078-002	1	
18	GASKET, FOAM, EMI, 3 MM	262635-003	3	
19	PANEL, I/O, GRAPHITE PANEL, I/O, PLAT WHT (EURO)	262802-001 262802-002	1	 3
20	PCB ASSY, MAIN, PROG, (US/CAN, DUAL) PCB ASSY, MAIN, PROG, (EURO, UK, AUS) PCB ASSY, MAIN, PROG, (JAPAN)	263202-100 263202-200 263202-300	1	2
21	BASE, CONSOLE, GRAPHITE BASE, CONSOLE, PLAT WHITE (EURO)	254547-001 254547-002	1	 3
22	SHIELD, LOWER	266444-001	1	
23	FOOT, RUBBER, 12.7 MM DIA X 2.38 MM THK	260465	4	
24	GROUND STRAP, FOIL, 25 MM X 105 MM	262634-105	1	
25	LCD ASSY, DISPLAY, PROG, (ALL VERSIONS)	268046-001	1	2
26	BEZEL SUB-ASSEMBLY, 321 & 321 GEMSTONE	255127-001	1	 3
27	BEZEL, DRAWER, DVD, 321 & 321 GEMSTONE	256957-001	1	
28	NAMEPLATE, 38 MM DIAMOND CUT	256945-001	1	
-	BARRIER, THERMAL (LOCATED UNDER MAIN PCB POWER SUPPLY SECTION)	268574-001	1	 3

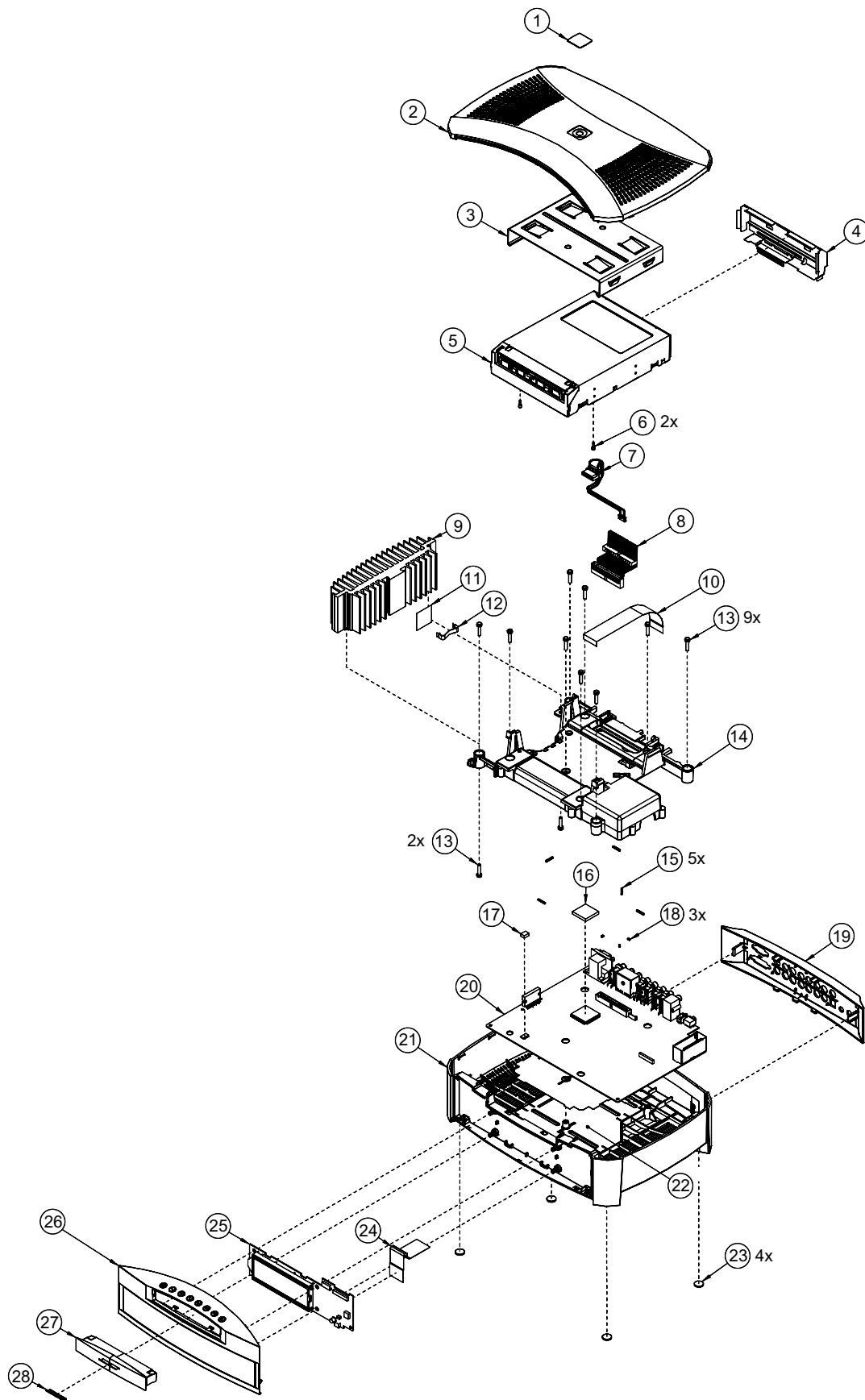


Figure 4. Console Exploded View

MAIN PART LIST

Bass Module Assembly (see Figure 5)

Item Number	Description	Qty.	Part Number	Note
1	SCREW, TAPP, 8-11 X .5, PAN, ASY, SQ	6	250817-08	
2	FOAM TAPE, .32"W	2	255202	
3	BRACKET, COVER, AMP	2	255179	
4	SCREW, TAPP, 8-11 x 1.0, PAN, XRC/SQ	8	172672-16	
5	XFMR, EI, 100/120V, 50/60HZ (US, JAPAN) XFMR, EI, 230V, 50 HZ (EURO, UK, AUS) XFMR, EI, 115/230V, 50/60HZ (DUAL VOLT)	1	261278-001 261276-001 261277-001	3 ⚠
6	ENCLOSURE, REAR, 120V, GRAPHITE (US, JAPAN) ENCLOSURE, REAR, 230V, GRPHT (EURO, UK, AUS) ENCLOSURE, REAR, 230V, PLT WHT (EURO) ENCLOSURE, REAR, 115/230V, GRPHT (DUAL VOLT)	1	255165-201 255165-221 255165-222 255165-211	3 ⚠
7	SCREW, TT, 8-32 X 0.5, PAN, XREC/SQ	4	255191-08	
8	BBOX, PCB/HEATSINK ASSY (US) BBOX, PCB/HEATSINK ASSY (EURO, UK, AUS) BBOX, PCB/HEATSINK ASSY (JAPAN) BBOX, PCB/HEATSINK ASSY (DUAL VOLT)	1	255139-001 255139-002 255139-003 255139-006	2

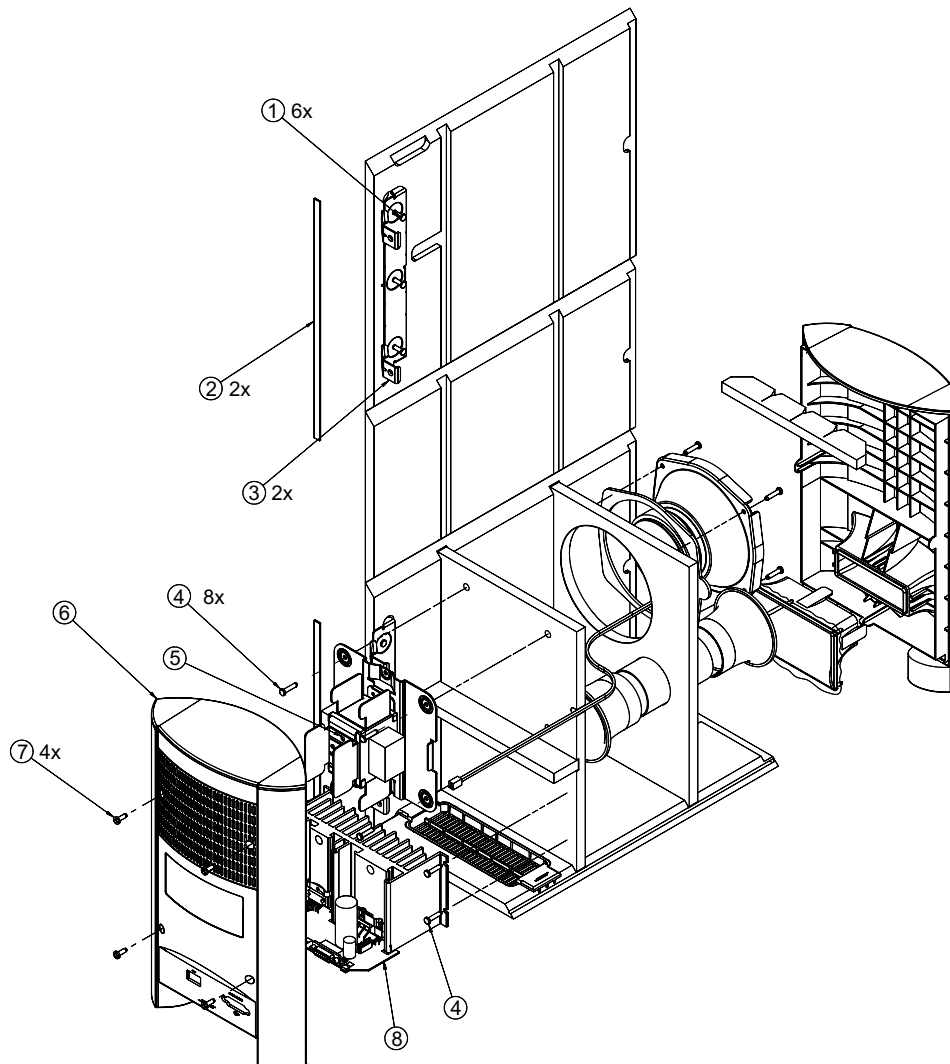


Figure 5. Bass Module Assembly Exploded View

MAIN PART LIST

Bass Module PCB Assembly (see Figure 6)

Item Number	Description	Qty.	Part Number	Note
1	HEATSINK, BASS MODULE	1	267169-001	
2	CLIP, SPRING	1	142864	
3	GASKET, .375" X .75" X .06"	3	255201	
4	PC BOARD ASSY, BASS (US) PC BOARD ASSY, BASS (EURO, UK, AUS) PC BOARD ASSY, BASS (JAPAN) PC BOARD ASSY, BASS (DUAL VOLT)	1	254575-001 254575-002 254575-003 254575-006	2
5	SCREW, M3.5 X 10 MM, THD ROLL	3	140447-10	
6	CLIP, HEATSINK, BB AMP	1	255174	

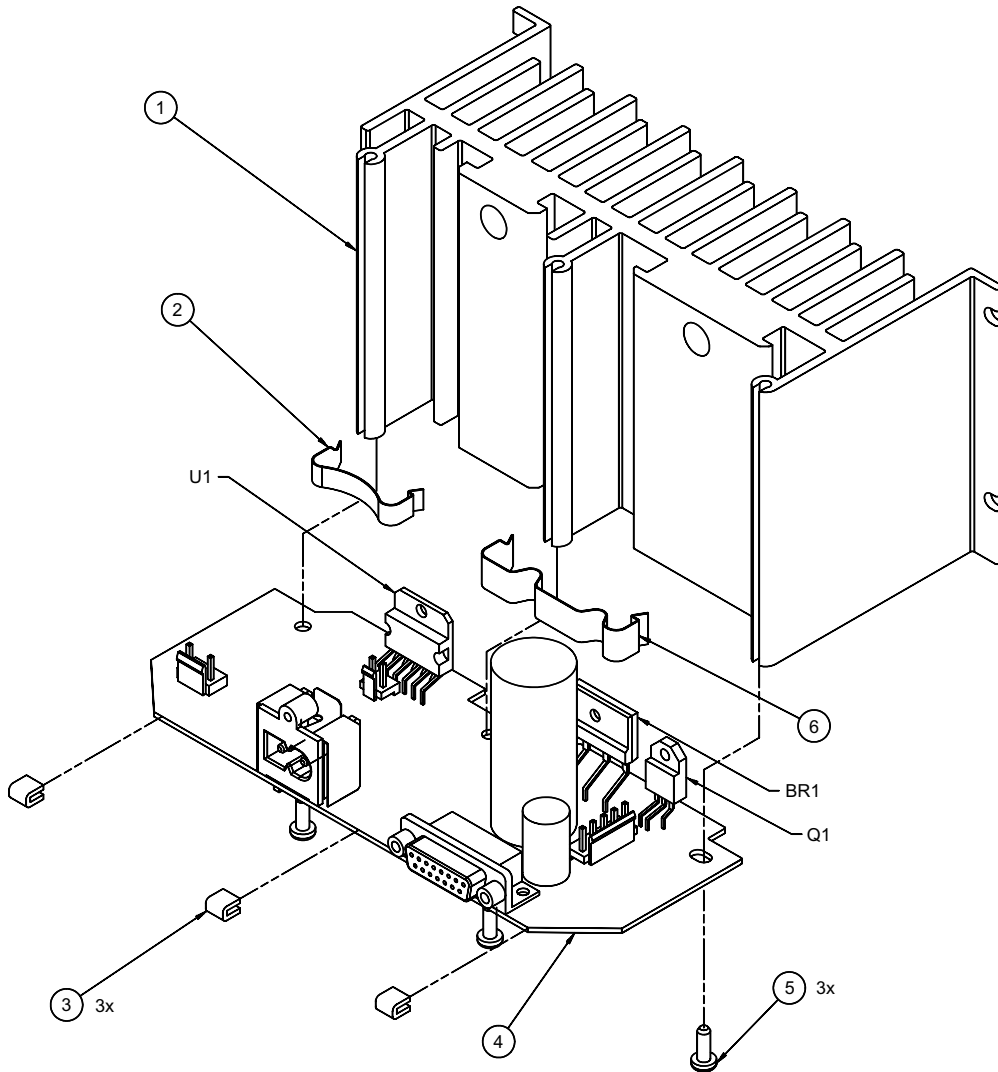


Figure 6. Bass Module PCB Assembly Exploded View

MAIN PART LIST

3•2•1 GS Array Assembly (see Figure 7)

Item Number	Description	Part Number	Qty per Array	Note
1	TWIDDLER ASSY, 50MM	273244-001	2	
2	GRILLE, METAL, ARRAY, GRAPHITE GRILLE, METAL, ARRAY, SILVER	273748-001 273748-003	1	
3	NAMEPLATE, BOSE, ARRAY	269981-001	1	
4	FOAM, GRILLE, ARRAY	272036-001	4	
5	SCREW, HILO, 4-16 X .375, PAN, XREC	181621-06	8	

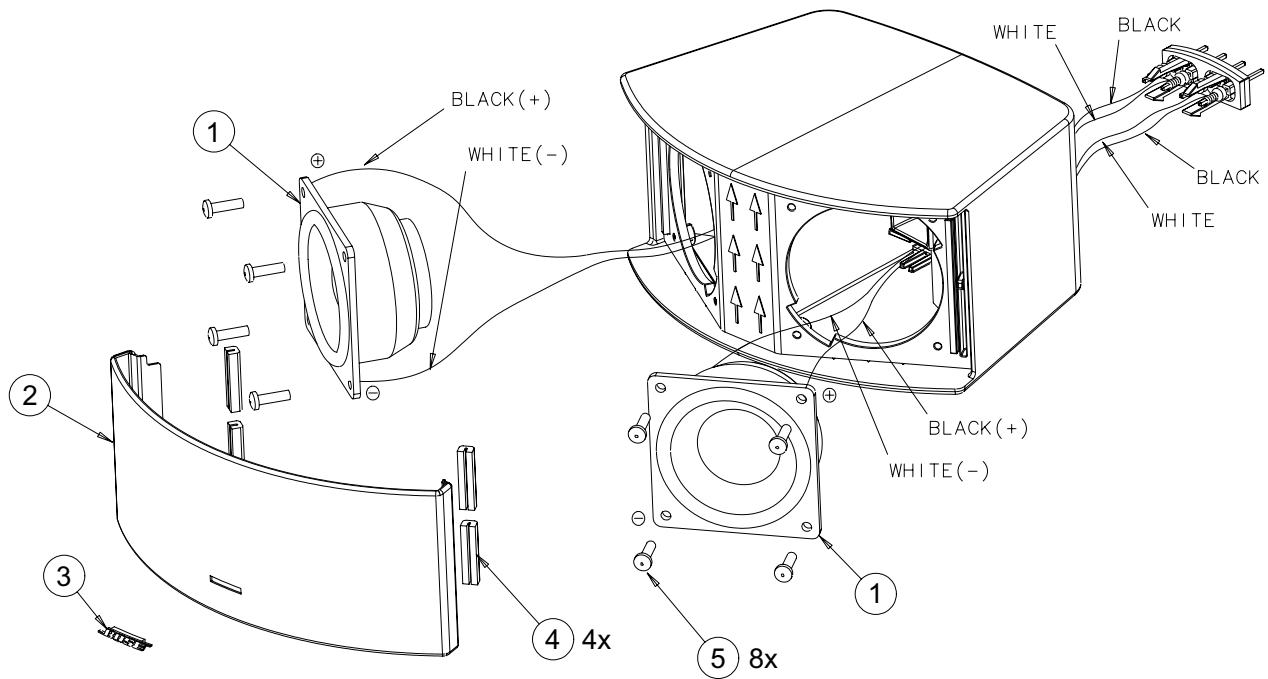


Figure 7. 3•2•1 GS Array Assembly Exploded View

ELECTRICAL PART LIST

Console Main PCB Assembly

Resistors

Reference Designator	Description	Part Number	Note
R1	33.2K, 0603, 1/10W, 1%	191465-3322	
R2	33.2K, 0603, 1/10W, 1%	191465-3322	
R3	6.04K, 0603, 1/10W, 1%	191465-6041	
R4	9.09K, 0603, 1/10W, 1%	191465-9091	
R5	10K, 0603, 1/10W, 1%	191465-1002	
R6	19.1K, 0603, 1/10W, 1%	191465-1912	
R11	22.1K, 0603, 1/10W, 1%	191465-2212	
R12	9.53K, 0603, 1/10W, 1%	191465-9531	
R14	1K, 0603, 1/10W, 1%	191465-1001	
R15	10K, 0603, 1/10W, 1%	191465-1002	
R27	51 OHM, 0603, 1/10W, 5%	199403-510	
R32	4.7K, 0603, 1/10W, 5%	199403-472	
R33	4.7K, 0603, 1/10W, 5%	199403-472	
R36	4.7K, 0603, 1/10W, 5%	199403-472	
R89	33.2K, 0603, 1/10W, 1%	191465-3322	
R90	13.3K, 0603, 1/10W, 1%	191465-1332	
R91	10.2K, 0603, 1/10W, 1%	191465-1022	
R92	0603, 1/10W, 1%	191465-4221	
R93	13.3K, 0603, 1/10W, 1%	191465-1332	
R95	499 OHM, 0603, 1/10W, 1%	191465-4990	
R96	10K, 0603, 1/10W, 5%	199403-103	
R98	1K, 0603, 1/10W, 1%	191465-1001	
R99	1K, 0603, 1/10W, 1%	191465-1001	
R100	1K, 0603, 1/10W, 1%	191465-1001	
R103	JUMPER, CHIP, 0603	196042	
R114	JUMPER, CHIP, 0603	196042	
R115	750 OHM, 1206, 1/4W, 5%	124895-7515	
R116	750 OHM, 1206, 1/4W, 5%	124895-7515	
R117	JUMPER, CHIP, 0603	196042	
R118	100 OHM, 0805, 1/10W, 5%	133626-1015	
R152	470K, 0603, 1/10W, 5%	199403-474	
R153	47K, 0603, 1/10W, 5%	199403-473	
R154	47K, 0603, 1/10W, 5%	199403-473	
R155	19.6K, 0603, 1/10W, 1%	191465-1962	
R156	19.6K, 0603, 1/10W, 1%	191465-1962	
R157	560 OHM, 0603, 1/10W, 1%	191465-5600	
R158	560 OHM, 0603, 1/10W, 1%	191465-5600	
R159	19.6K, 0603, 1/10W, 1%	191465-1962	
R160	19.6K, 0603, 1/10W, 1%	191465-1962	
R161	560 OHM, 0603, 1/10W, 1%	191465-5600	
R162	19.6K, 0603, 1/10W, 1%	191465-1962	
R163	19.6K, 0603, 1/10W, 1%	191465-1962	
R164	560 OHM, 0603, 1/10W, 1%	191465-5600	
R165	19.6K, 0603, 1/10W, 1%	191465-1962	
R166	19.6K, 0603, 1/10W, 1%	191465-1962	
R167	10K, 0603, 1/10W, 1%	191465-1002	

ELECTRICAL PART LIST

Console Main PCB Assembly

Resistors (continued)

Reference Designator	Description	Part Number	Note
R168	10K, 0603, 1/10W, 1%	191465-1002	
R169	10K, 0603, 1/10W, 1%	191465-1002	
R170	10K, 0603, 1/10W, 1%	191465-1002	
R171	1K, 0603, 1/10W, 5%	199403-102	
R172	1K, 0603, 1/10W, 5%	199403-102	
R173	10.0K, 0805, 1/10W, 5%	133626-1035	
R175	10.0K, 0805, 1/10W, 5%	133626-1035	
R196	19.6K, 0603, 1/10W, 1%	191465-1962	
R197	19.6K, 0603, 1/10W, 1%	191465-1962	
R198	19.6K, 0603, 1/10W, 1%	191465-1962	
R199	19.6K, 0603, 1/10W, 1%	191465-1962	
R200	19.6K, 0603, 1/10W, 1%	191465-1962	
R201	19.6K, 0603, 1/10W, 1%	191465-1962	
R202	19.6K, 0603, 1/10W, 1%	191465-1962	
R203	19.6K, 0603, 1/10W, 1%	191465-1962	
R204	100 OHM, 0603, 1/10W, 5%	199403-101	
R205	100 OHM, 0603, 1/10W, 5%	199403-101	
R206	JUMPER, CHIP, 0805	133627	
R1000	100K, 0603, 1/10W, 5%	199403-104	
R1001	100K, 0603, 1/10W, 5%	199403-104	
R1002	100K, 0603, 1/10W, 5%	199403-104	
R1004	100K, 0603, 1/10W, 5%	199403-104	
R1005	100K, 0603, 1/10W, 5%	199403-104	
R1006	100K, 0603, 1/10W, 5%	199403-104	
R1008	560 OHMS, 0603, 1/10W, 5%	199403-561	
R1009	560 OHMS, 0603, 1/10W, 5%	199403-561	
R1010	1.00K, 0805, 1/10W, 5%	133626-1025	
R1011	4.7K, 0603, 1/10W, 5%	199403-472	
R1012	4.7K, 0603, 1/10W, 5%	199403-472	
R1015	100K, 0603, 1/10W, 5%	199403-104	
R1016	100K, 0603, 1/10W, 5%	199403-104	
R1017	1.00K, 0805, 1/10W, 1%	133625-1001	
R1018	1.00K, 0805, 1/10W, 1%	133625-1001	
R1019	1.00K, 0805, 1/10W, 5%	133626-1025	
R1020	1.00K, 0805, 1/10W, 5%	133626-1025	
R1021	1.00K, 0805, 1/10W, 5%	133626-1025	
R1023	1.00K, 0805, 1/10W, 5%	133626-1025	
R1024	1.00K, 0805, 1/10W, 5%	133626-1025	
R1025	1.00K, 0805, 1/10W, 1%	133625-1001	
R1026	1.00K, 0805, 1/10W, 1%	133625-1001	
R1027	1.00K, 0805, 1/10W, 1%	133625-1001	
R1028	1.00K, 0805, 1/10W, 1%	133625-1001	
R1029	1.00K, 0805, 1/10W, 1%	133625-1001	
R1030	1.00K, 0805, 1/10W, 1%	133625-1001	
R2000	3.01K, 0603, 1/10W, 1%	191465-3011	

ELECTRICAL PART LIST

Console Main PCB Assembly

Resistors (continued)

Reference Designator	Description	Part Number	Note
R2004	1K, 0603, 1/10W, 5%	199403-102	
R2005	120 OHMS, 0603, 1/10W, 5%	199403-121	
R2006	499 OHM, 0603, 1/10W, 1%	191465-4990	
R2007	2.32K, 0603, 1/10W, 1%	191465-2321	
R2008	2.32K, 0603, 1/10W, 1%	191465-2321	
R2009	330 OHM, 0603, 1/10W, 1%	191465-3300	
R2010	150 OHMS, 0603, 1/10W, 5%	199403-151	
R2011	100 OHM, 0603, 1/10W, 1%	191465-1000	
R2012	4.75K, 0603, 1/10W, 1%	191465-4751	
R2013	51 OHM, 0603, 1/10W, 5%	199403-510	
R2014	6.8K, 0603, 1/10W, 5%	199403-682	
R2015	17.8K, 0603, 1/10W, 1%	191465-1782	
R2016	5.1K, 0603, 1/10W, 5%	199403-512	
R2017	5.1K, 0603, 1/10W, 5%	199403-512	
R2018	3.01K, 0603, 1/10W, 1%	191465-3011	
R2019	51 OHM, 0603, 1/10W, 5%	199403-510	
R2020	3.32K, 0603, 1/10W, 1%	191465-3321	
R2021	3.32K, 0603, 1/10W, 1%	191465-3321	
R2022	4.32K, 0603, 1/10W, 1%	191465-4321	
R2023	4.32K, 0603, 1/10W, 1%	191465-4321	
R2024	3.32K, 0603, 1/10W, 1%	191465-3321	
R2025	3.32K, 0603, 1/10W, 1%	191465-3321	
R2026	17.8K, 0603, 1/10W, 1%	191465-1782	
R2027	3.32K, 0603, 1/10W, 1%	191465-3321	EURO, UK, AUS
R2028	10K, 0603, 1/10W, 5%	199403-103	
R2029	4.75K, 0603, 1/10W, 1%	191465-4751	
R2033	6.81K, 0603, 1/10W, 1%	191465-6811	
R2034	2.2K, 0603, 1/10W, 5%	199403-222	
R2035	100 OHM, 0603, 1/10W, 5%	199403-101	
R2036	3.32K, 0603, 1/10W, 1%	191465-3321	
R2037	2.0K, 0603, 1/10W, 5%	199403-202	
R2038	1K, 0603, 1/10W, 1%	191465-1001	
R2039	1K, 0603, 1/10W, 5%	199403-102	
R2040	1K, 0603, 1/10W, 5%	199403-102	
R2041	82K, 0603, 1/10W, 5%	199403-823	
R2042	82K, 0603, 1/10W, 5%	199403-823	
R2043	1K, 0603, 1/10W, 5%	199403-102	
R2044	JUMPER, CHIP, 0603	196042	
R2046	2.2K, 0603, 1/10W, 5%	199403-222	
R2048	2.2K, 0603, 1/10W, 5%	199403-222	
R2049	2.2K, 0603, 1/10W, 5%	199403-222	
R2050	JUMPER, CHIP, 0603	196042	
R2051	3.01K, 0603, 1/10W, 1%	191465-3011	
R2100	20 OHMS, 0603, 1/10W, 5%	199403-200	EURO, UK, AUS

ELECTRICAL PART LIST

Console Main PCB Assembly

Resistors (continued)

Reference Designator	Description	Part Number	Note
R2101	20 OHMS, 0603, 1/10W, 5%	199403-200	EURO, UK, AUS
R2102	2.2K, 0603, 1/10W, 5%	199403-222	
R2103	47K, 0603, 1/10W, 5%	199403-473	
R2104	100K, 0603, 1/10W, 5%	199403-104	
R2105	22 OHMS, 0603, 1/10W, 5%	199403-220	
R2106	1.18K, 0603, 1/10W, 1%	191465-1181	
R3001	33 OHMS, 0603, 1/10W, 5%	199403-330	
R3002	33 OHMS, 0603, 1/10W, 5%	199403-330	
R3003	33 OHMS, 0603, 1/10W, 5%	199403-330	
R3004	33 OHMS, 0603, 1/10W, 5%	199403-330	
R3005	33 OHMS, 0603, 1/10W, 5%	199403-330	
R3006	33 OHMS, 0603, 1/10W, 5%	199403-330	
R3007	33 OHMS, 0603, 1/10W, 5%	199403-330	
R3008	10K, 0603, 1/10W, 5%	199403-103	
R3009	1K, 0603, 1/10W, 5%	199403-102	
R3049	10K, 0603, 1/10W, 5%	199403-103	
R3050	10K, 0603, 1/10W, 5%	199403-103	
R3051	10K, 0603, 1/10W, 5%	199403-103	
R3052	10K, 0603, 1/10W, 5%	199403-103	
R3053	10K, 0603, 1/10W, 5%	199403-103	
R3054	10K, 0603, 1/10W, 5%	199403-103	
R3055	10K, 0603, 1/10W, 5%	199403-103	
R3056	10K, 0603, 1/10W, 5%	199403-103	
R3058	10K, 0603, 1/10W, 5%	199403-103	
R3059	10K, 0603, 1/10W, 5%	199403-103	
R3060	10K, 0603, 1/10W, 5%	199403-103	
R3062	5.6K, 0603, 1/10W, 5%	199403-562	
R3063	10K, 0603, 1/10W, 5%	199403-103	
R3064	10K, 0603, 1/10W, 5%	199403-103	
R3065	5.6K, 0603, 1/10W, 5%	199403-562	
R3066	10K, 0603, 1/10W, 5%	199403-103	
R3067	2.2K, 0603, 1/10W, 5%	199403-222	
R3068	10K, 0603, 1/10W, 5%	199403-103	
R3105	100 OHM, 0603, 1/10W, 5%	199403-101	
R3106	100 OHM, 0603, 1/10W, 5%	199403-101	
R3107	100 OHM, 0603, 1/10W, 5%	199403-101	
R3109	100 OHM, 0603, 1/10W, 5%	199403-101	
R3110	51 OHM, 0603, 1/10W, 5%	199403-510	
R3111	100 OHM, 0603, 1/10W, 5%	199403-101	
R3112	100 OHM, 0603, 1/10W, 5%	199403-101	
R3113	100 OHM, 0603, 1/10W, 5%	199403-101	
R3124	100 OHM, 0603, 1/10W, 5%	199403-101	
R3125	100 OHM, 0603, 1/10W, 5%	199403-101	
R3129	100 OHM, 0603, 1/10W, 5%	199403-101	
R3131	1.5K, 0603, 1/10W, 5%	199403-152	

ELECTRICAL PART LIST

Console Main PCB Assembly

Resistors (continued)

Reference Designator	Description	Part Number	Note
R3132	5.6K, 0603, 1/10W, 5%	199403-562	
R3133	1.5K, 0603, 1/10W, 5%	199403-152	
R3135	100 OHM, 0805, 1/10W, 5%	133626-1015	
R3140	4.7K, 0603, 1/10W, 5%	199403-472	
R3141	4.7K, 0603, 1/10W, 5%	199403-472	
R3142	1.5K, 0603, SMD, 1/10W, 5%	199403-152	
R3143	1.5K, 0603, SMD, 1/10W, 5%	199403-152	
R3144	51 OHM, ARRAY, SMT, 4 POS, 5%	186433-5104	
R3145	51 OHM, ARRAY, SMT, 4 POS, 5%	186433-5104	
R3148	51 OHM, ARRAY, SMT, 4 POS, 5%	186433-5104	
R3149	51 OHM, ARRAY, SMT, 4 POS, 5%	186433-5104	
R3150	51 OHM, ARRAY, SMT, 4 POS, 5%	186433-5104	
R3151	51 OHM, ARRAY, SMT, 4 POS, 5%	186433-5104	
R3152	47 OHM, 0603, 1/10W, 5%	199403-470	
R3153	100 OHM, 0805, 1/10W, 5%	133626-1015	
R3154	100 OHM, 0805, 1/10W, 5%	133626-1015	
R3155	100 OHM, 0603, 1/10W, 5%	199403-101	
R3156	100 OHM, 0805, 1/10W, 5%	133626-1015	
R3158	100 OHM, 0805, 1/10W, 5%	133626-1015	
R3159	100 OHM, 0603, 1/10W, 5%	199403-101	
R3161	47 OHM, 0603, 1/10W, 5%	199403-470	
R4000	JUMPER, CHIP, 0603	196042	
R4001	150 OHMS, 0603, 1/10W, 5%	199403-151	
R4002	150 OHMS, 0603, 1/10W, 5%	199403-151	
R4008	10K, 0603, 1/10W, 1%	191465-1002	
R4009	39.2K, 0603, 1/10W, 1%	191465-3922	
R4010	JUMPER, CHIP, 0805	133627	
R4011	JUMPER, CHIP, 0805	133627	
R4015	JUMPER, CHIP, 0805	133627	
R4020	75 OHM, 0805, 1/10W, 5%	133626-7505	
R4021	100 OHM, 0805, 1/10W, 5%	133626-1015	
R4022	2.2K, 0603, 1/10W, 5%	199403-222	
R4023	3.3K, 0603, 1/10W, 5%	199403-332	
R4024	47K, 0603, 1/10W, 5%	199403-473	
R4025	100 OHM, 0603, 1/10W, 5%	199403-101	
R4026	4.99K, 0603, 1/10W, 1%	191465-4991	
R4027	100 OHM, 0603, 1/10W, 5%	199403-101	
R4028	100 OHM, 0603, 1/10W, 5%	199403-101	
R4029	75 OHM, 0805, 1/10W, 5%	133626-7505	
R4030	100 OHM, 0805, 1/10W, 5%	133626-1015	
R4031	75 OHM, 0805, 1/10W, 5%	133626-7505	
R4032	10K, 0603, 1/10W, 5%	199403-103	
R4033	390 OHM, 0805, 1/10W, 5%	133626-3915	
R4034	100 OHM, 0603, 1/10W, 5%	199403-101	
R4035	100 OHM, 0603, 1/10W, 5%	199403-101	
R4036	4.7K, 0603, 1/10W, 5%	199403-472	

ELECTRICAL PART LIST

Console Main PCB Assembly

Resistors (continued)

Reference Designator	Description	Part Number	Note
R4037	19.6K, 0603, 1/10W, 1%	191465-1962	
R4038	19.6K, 0603, 1/10W, 1%	191465-1962	
R4039	100 OHM, 0603, 1/10W, 5%	199403-101	
R4040	100 OHM, 0603, 1/10W, 5%	199403-101	
R4041	100 OHM, 0805, 1/10W, 5%	133626-1015	
R4042	100 OHM, 0805, 1/10W, 5%	133626-1015	
R4043	390 OHM, 0805, 1/10W, 5%	133626-3915	
R4044	390 OHM, 0805, 1/10W, 5%	133626-3915	
R4045	390 OHM, 0805, 1/10W, 5%	133626-3915	
R4046	390 OHM, 0805, 1/10W, 5%	133626-3915	
R4047	51 OHM, 0603, 1/10W, 5%	199403-510	
R4048	51 OHM, 0603, 1/10W, 5%	199403-510	
R5000	100 OHM, 0603, 1/10W, 5%	199403-101	
R5001	10K, 0603, 1/10W, 5%	199403-103	
R5002	4.02K, 0603, 1/10W, 1%	191465-4021	
R5003	75 OHM, 0603, 1/10W, 5%	199403-750	
R5004	75 OHM, 0603, 1/10W, 5%	199403-750	
R5005	75 OHM, 0603, 1/10W, 5%	199403-750	
R5013	75 OHM, 0603, 1/10W, 5%	199403-750	
R5014	75 OHM, 0603, 1/10W, 5%	199403-750	
R5015	75 OHM, 0603, 1/10W, 5%	199403-750	
R5022	75 OHM, 0805, 1/10W, 5%	133626-7505	
R5023	75 OHM, 0805, 1/10W, 5%	133626-7505	
R5024	75 OHM, 0805, 1/10W, 5%	133626-7505	
R5027	8.45K, 0603, 1/10W, 1%	191465-8451	
R5028	8.45K, 0603, 1/10W, 1%	191465-8451	
R5030	10K, 0603, 1/10W, 1%	191465-1002	
R5031	2.0K, 0603, 1/10W, 1%	191465-2001	
R5036	10K, 0603, 1/10W, 1%	191465-1002	
R5037	5.76K, 0603, 1/10W, 1%	191465-5761	
R5038	100K, 0603, 1/10W, 1%	191465-1003	
R5084	66.5K, 0603, 1/10W, 1%	191465-6652	
R5085	66.5K, 0603, 1/10W, 1%	191465-6652	
R5086	71.5 OHM, 0805, 1/10W, 1%	133625-71R5	
R5087	71.5 OHM, 0805, 1/10W, 1%	133625-71R5	
R5088	71.5 OHM, 0805, 1/10W, 1%	133625-71R5	
R5089	330 OHMS, 0603, 1/10W, 5%	199403-331	
R5090	330 OHMS, 0603, 1/10W, 5%	199403-331	
R5091	330 OHMS, 0603, 1/10W, 5%	199403-331	
R5092	JUMPER, CHIP, 0603	196042	
R5093	100 OHM, 0805, 1/10W, 5%	133626-1015	
R5094	100 OHM, 0805, 1/10W, 5%	133626-1015	
R5095	2.00K, 0805, 1/10W, 5%	133626-2025	
R5096	2.00K, 0805, 1/10W, 5%	133626-2025	
R7056	4.7K, 0603, 1/10W, 5%	199403-472	
R7059	100 OHM, 0603, 1/10W, 5%	199403-101	

ELECTRICAL PART LIST

Console Main PCB Assembly

Resistors (continued)

Reference Designator	Description	Part Number	Note
R7060	100 OHM, 0603, 1/10W, 5%	199403-101	
R7062	100 OHM, 0603, 1/10W, 5%	199403-101	
R7064	100 OHM, 0603, 1/10W, 5%	199403-101	
R7065	4.7K, 0603, 1/10W, 5%	199403-472	
R7066	4.7K, 0603, 1/10W, 5%	199403-472	
R7067	4.7K, 0603, 1/10W, 5%	199403-472	
R7070	22 OHMS, 0603, 1/10W, 5%	199403-220	
R7071	22 OHMS, 0603, 1/10W, 5%	199403-220	
R7073	33 OHMS, 0603, 1/10W, 5%	199403-330	
R7074	33 OHMS, 0603, 1/10W, 5%	199403-330	
R7075	33 OHMS, 0603, 1/10W, 5%	199403-330	
R7076	33 OHMS, 0603, 1/10W, 5%	199403-330	
R7077	33 OHMS, 0603, 1/10W, 5%	199403-330	
R7078	33 OHMS, 0603, 1/10W, 5%	199403-330	
R7079	33 OHMS, 0603, 1/10W, 5%	199403-330	
R7080	4.7K, 0603, 1/10W, 5%	199403-472	
R7082	4.7K, 0603, 1/10W, 5%	199403-472	
R7083	100 OHM, 0603, 1/10W, 5%	199403-101	
R7085	4.7K, 0603, 1/10W, 5%	199403-472	
R7086	4.7K, 0805, 1/10W, 5%	133626-4725	
R7094	33 OHMS, 0603, 1/10W, 5%	199403-330	
R7095	33 OHMS, 0603, 1/10W, 5%	199403-330	
R7096	33 OHMS, 0603, 1/10W, 5%	199403-330	
R7097	33 OHMS, 0603, 1/10W, 5%	199403-330	
R7098	33 OHMS, 0603, 1/10W, 5%	199403-330	
R7099	33 OHMS, 0603, 1/10W, 5%	199403-330	
R7100	100 OHM, 0603, 1/10W, 5%	199403-101	
R7101	100 OHM, 0603, 1/10W, 5%	199403-101	
R7104	100 OHM, 0603, 1/10W, 5%	199403-101	

Capacitors

Reference Designator	Description	Part Number	Note
C1	330uF, EL, 105C, 35V, 20%	258490-331B24V	
C2	330uF, EL, 105C, 35V, 20%	258490-331B24V	
C3	.047uF, 0805, X7R, 50V, 10%	133623-473	
C4	.047uF, 0805, X7R, 50V, 10%	133623-473	
C5	2200pF, 0603, X7R, 50V	191470-222	
C6	2200pF, 0603, X7R, 50V	191470-222	
C7	.047uF, 0603, X7R, 25V, 5%	196999-473	
C8	.10uF, 0805, X7R, 50V	133624	
C9	.047uF, 0603, X7R, 25V, 5%	196999-473	
C10	.10uF, 0805, X7R, 50V	133624	
C11	680pF, 0603, X7R, 50V	191470-681	
C12	.47uF, BOX, 85C, 50V, 5%	137127-474	
C13	820pF, 0603, X7R, 50V	191470-821	

ELECTRICAL PART LIST

Console Main PCB Assembly

Capacitors (continued)

Reference Designator	Description	Part Number	Note
C14	.47uF, BOX, 85C, 50V, 5%	137127-474	
C15	.47uF, BOX, 85C, 50V, 5%	137127-474	
C16	.47uF, BOX, 85C, 50V, 5%	137127-474	
C17	1000uF, EL, 105C, 25V, 20%	258490-102B25E	
C18	1000uF, EL, 105C, 25V, 20%	258490-102B25E	
C19	.047uF, 0603, X7R, 25V, 5%	196999-473	
C21	330uF, EL, SMD, 105C, 10V, 20%	256772-331A	
C22	.047uF, 0805, X7R, 50V, 10%	133623-473	
C23	.047uF, 0805, X7R, 50V, 10%	133623-473	
C24	.047uF, 0805, X7R, 50V, 10%	133623-473	
C50	.047uF, 0603, X7R, 25V, 5%	196999-473	
C51	.47uF, EL, 85C, 50V, 20%	177902-R47H	
C54	.047uF, 0603, X7R, 25V, 5%	196999-473	
C57	.047uF, 0603, X7R, 25V, 5%	196999-473	
C59	.047uF, 0805, X7R, 50V, 10%	133623-473	
C60	.047uF, 0603, X7R, 25V, 5%	196999-473	
C61	.047uF, 0603, X7R, 25V, 5%	196999-473	
C62	.047uF, 0603, X7R, 25V, 5%	196999-473	
C63	.047uF, 0603, X7R, 25V, 5%	196999-473	
C64	.047uF, 0603, X7R, 25V, 5%	196999-473	
C65	.047uF, 0603, X7R, 25V, 5%	196999-473	
C66	.047uF, 0603, X7R, 25V, 5%	196999-473	
C67	.047uF, 0603, X7R, 25V, 5%	196999-473	
C68	.047uF, 0603, X7R, 25V, 5%	196999-473	
C69	.047uF, 0603, X7R, 25V, 5%	196999-473	
C70	.047uF, 0603, X7R, 25V, 5%	196999-473	
C71	.047uF, 0603, X7R, 25V, 5%	196999-473	
C72	.047uF, 0603, X7R, 25V, 5%	196999-473	
C73	.047uF, 0603, X7R, 25V, 5%	196999-473	
C74	.047uF, 0603, X7R, 25V, 5%	196999-473	
C75	.047uF, 0603, X7R, 25V, 5%	196999-473	
C76	.047uF, 0603, X7R, 25V, 5%	196999-473	
C77	.047uF, 0603, X7R, 25V, 5%	196999-473	
C78	.047uF, 0603, X7R, 25V, 5%	196999-473	
C79	.047uF, 0603, X7R, 25V, 5%	196999-473	
C80	.047uF, 0603, X7R, 25V, 5%	196999-473	
C81	.047uF, 0603, X7R, 25V, 5%	196999-473	
C82	.047uF, 0603, X7R, 25V, 5%	196999-473	
C83	.047uF, 0603, X7R, 25V, 5%	196999-473	
C84	.047uF, 0603, X7R, 25V, 5%	196999-473	
C85	.047uF, 0603, X7R, 25V, 5%	196999-473	
C86	.047uF, 0603, X7R, 25V, 5%	196999-473	
C87	.047uF, 0603, X7R, 25V, 5%	196999-473	
C88	.047uF, 0603, X7R, 25V, 5%	196999-473	
C90	.047uF, 0603, X7R, 25V, 5%	133623-473	
C91	2200pF, 0603, X7R, 50V, 10%	191470-222	

ELECTRICAL PART LIST

Console Main PCB Assembly

Capacitors (continued)

Reference Designator	Description	Part Number	Note
C92	.047uF, 0603, X7R, 25V, 5%	196999-473	
C93	.10uF, 0805, X7R, 50V	133624	
C94	470pF, 0603, COG, 50V, 5%	188454-471	
C95	.47uF, BOX, 85C, 50V, 5%	137127-474	
C96	.47uF, BOX, 85C, 50V, 5%	137127-474	
C97	1000uF, EL, 105C, 25V, 20%	258490-102B25E	
C98	.047uF, 0805, X7R, 50V, 10%	133623-473	
C99	.047uF, 0805, X7R, 50V, 10%	133623-473	
C101	.047uF, 0603, X7R, 25V, 5%	196999-473	
C100	.047uF, 0603, X7R, 25V, 5%	196999-473	
C109	.047uF, 0603, X7R, 25V, 5%	196999-473	
C110	.01uF, 0603, X7R, 50V	191470-103	
C111	.047uF, 0805, X7R, 50V, 10%	133623-473	
C112	.047uF, 0805, X7R, 50V, 10%	133623-473	
C113	.047uF, 0805, X7R, 50V, 10%	133623-473	
C114	.047uF, 0805, X7R, 50V, 10%	133623-473	
C116	.01uF, 0603, X7R, 50V	191470-103	
C117	.01uF, 0603, X7R, 50V	191470-103	
C118	.01uF, 0805, X7R, 50V, 10%	133623-103	
C119	1000pF, 0603, X7R, 50V	191470-102	
C120	1000pF, 0603, X7R, 50V	191470-102	
C150	1uF, EL, 85C, 50V, 20%	177902-010H	
C151	1uF, EL, 85C, 50V, 20%	177902-010H	
C152	1uF, EL, 85C, 50V, 20%	177902-010H	
C153	1uF, EL, 85C, 50V, 20%	177902-010H	
C155	.10uF, 0805, X7R, 50V	133624	
C158	1uF, EL, 85C, 50V, 20%	177902-010H	
C159	47uF, EL, 5.5 MM, 16V, 20%	177902-470C	
C161	100pF, 0603, COG, 50V, 5%	188454-101	
C162	100pF, 0603, COG, 50V, 5%	188454-101	
C164	100pF, 0603, COG, 50V, 5%	188454-101	
C165	2200pF, 0805, 50V, 5%	133622-222	
C166	2200pF, 0805, 50V, 5%	133622-222	
C167	2200pF, 0805, 50V, 5%	133622-222	
C168	2200pF, 0805, 50V, 5%	133622-222	
C169	2200pF, 0805, 50V, 5%	133622-222	
C170	2200pF, 0805, 50V, 5%	133622-222	
C171	2200pF, 0805, 50V, 5%	133622-222	
C172	2200pF, 0805, 50V, 5%	133622-222	
C173	100uF, EL, 85C, 25V, 20%	177902-101E	
C175	.01uF, 0603, X7R, 50V	191470-103	
C176	.01uF, 0603, X7R, 50V	191470-103	
C177	100pF, 0603, COG, 50V, 5%	188454-101	
C178	.047uF, 0805, X7R, 50V, 10%	133623-473	
C180	270pF, 0603, COG, 50V	188454-271	
C181	2700pF, 0603, X7R, 50V	191470-272	

ELECTRICAL PART LIST

Console Main PCB Assembly

Capacitors (continued)

Reference Designator	Description	Part Number	Note
C182	.01uF, 0603, X7R, 50V	191470-103	
C183	2700pF, 0603, X7R, 50V	191470-272	
C184	2700pF, 0603, X7R, 50V	191470-272	
C185	2700pF, 0603, X7R, 50V	191470-272	
C186	330pF, 0603, COG, 50V, 5%	188454-331	
C187	330pF, 0603, COG, 50V, 5%	188454-331	
C188	330pF, 0603, COG, 50V, 5%	188454-331	
C189	330pF, 0603, COG, 50V, 5%	188454-331	
C193	270pF, 0603, COG, 50V	188454-271	
C194	270pF, 0603, COG, 50V	188454-271	
C195	270pF, 0603, COG, 50V	188454-271	
C200	1000pF, 0603, X7R, 50V	191470-102	
C1000	470pF, 0805, COG, 50V, 5%	133622-471	
C1001	470pF, 0805, COG, 50V, 5%	133622-471	
C1002	470pF, 0805, COG, 50V, 5%	133622-471	
C1004	470pF, 0805, COG, 50V, 5%	133622-471	
C1005	470pF, 0805, COG, 50V, 5%	133622-471	
C1006	470pF, 0805, COG, 50V, 5%	133622-471	
C1018	.047uF, 0603, X7R, 25V, 5%	196999-473	
C1019	.047uF, 0603, X7R, 25V, 5%	196999-473	
C1020	1uF, EL, 85C, 50V, 20%	177902-010H	
C1021	1uF, EL, 85C, 50V, 20%	177902-010H	
C1022	22uF, EL, 85C, 16V, 20%	177902-220C	
C1023	22uF, EL, 85C, 16V, 20%	177902-220C	
C1024	.047uF, 0603, X7R, 25V, 5%	196999-473	
C1025	1uF, EL, 85C, 50V, 20%	177902-010H	
C1028	1000pF, 0805, COG, 50V, 5%	133622-102	
C1029	1000pF, 0805, COG, 50V, 5%	133622-102	
C1030	1uF, EL, 85C, 50V, 20%	177902-010H	
C1031	1uF, EL, 85C, 50V, 20%	177902-010H	
C1032	1uF, EL, 85C, 50V, 20%	177902-010H	
C1033	1uF, EL, 85C, 50V, 20%	177902-010H	
C1034	1uF, EL, 85C, 50V, 20%	177902-010H	
C1035	1uF, EL, 85C, 50V, 20%	177902-010H	
C2004	.047uF, 0603, X7R, 25V, 5%	196999-473	
C2005	.047uF, 0603, X7R, 25V, 5%	196999-473	
C2006	47uF, EL, 5.5 MM, 16V, 20%	177902-470C	
C2007	.047uF, 0603, X7R, 25V, 5%	196999-473	
C2008	47uF, EL, 5.5 MM, 16V, 20%	177902-470C	
C2009	.47uF, EL, 85C, 50V, 20%	177902-R47H	
C2010	.047uF, 0603, X7R, 25V, 5%	196999-473	
C2011	.01uF, 0603, X7R, 50V	191470-103	
C2013	1uF, EL, 85C, 50V, 20%	177902-010H	
C2014	.47uF, EL, 85C, 50V, 20%	177902-R47H	
C2015	1uF, EL, 85C, 50V, 20%	177902-010H	
C2016	1uF, EL, 85C, 50V, 20%	177902-010H	

ELECTRICAL PART LIST

Console Main PCB Assembly

Capacitors (continued)

Reference Designator	Description	Part Number	Note
C2017	1800pF, 0603, X7R, 50V, 10%	191470-182	
C2018	1800pF, 0603, X7R, 50V, 10%	191470-182	
C2019	10uF, EL, 85C, 16V, 20%	177902-100C	
C2020	10uF, EL, 85C, 16V, 20%	177902-100C	
C2021	.033uF, 0603, X7R, 25V	196999-333	
C2022	.033uF, 0603, X7R, 25V	196999-333	
C2024	10uF, EL, 85C, 16V, 20%	177902-100C	
C2025	.01uF, 0603, X7R, 50V	191470-103	
C2026	22uF, EL, 85C, 16V, 20%	177902-220C	
C2027	22uF, EL, 85C, 16V, 20%	177902-220C	
C2028	.047uF, 0603, X7R, 25V, 5%	196999-473	
C2029	3.3uF, EL, 85C, 35V, 20%	177902-3R3V	
C2033	.047uF, 0603, X7R, 25V, 5%	196999-473	
C2038	.01uF, 0603, X7R, 50V	191470-103	
C2039	.01uF, 0603, X7R, 50V	191470-103	
C2040	27pF, 0603, COG, 50V, 5%	188454-270	
C2041	27pF, 0603, COG, 50V, 5%	188454-270	
C2051	2.2uF, EL, BP, 85C, 50V, 20%	259549-2R2H	
C2053	.047uF, 0603, X7R, 25V, 5%	196999-473	
C2054	100uF, EL, 85C, 16V, 20%	177902-101C	
C2055	1000pF, 0603, X7R, 50V	191470-102	
C2057	1000pF, 0603, X7R, 50V	191470-102	
C2059	1000pF, 0603, X7R, 50V	191470-102	
C2060	680pF, 0603, X7R, 50V	191470-681	
C2061	22uF, EL, 85C, 16V, 20%	177902-220C	
C2100	10uF, EL, 85C, 16V, 20%	177902-100C	EURO, UK, AUS
C2101	330pF, 0603, COG, 50V, 5%	188454-331	EURO, UK, AUS
C2102	33pF, 0603, COG, 50V, 5%	188454-330	EURO, UK, AUS
C2103	33pF, 0603, COG, 50V, 5%	188454-330	EURO, UK, AUS
C2104	.047uF, 0603, X7R, 25V, 5%	196999-473	EURO, UK, AUS
C2105	.047uF, 0603, X7R, 25V, 5%	196999-473	EURO, UK, AUS
C2106	560pF, 0603, X7R, 50V	191470-561	EURO, UK, AUS
C2107	.047uF, 0603, X7R, 25V, 5%	196999-473	
C2108	9.1pF, 0603, COG, 50V	188454-9R1	
C2109	12pF, 0805, COG, 50V, 5%	133622-120	
C3002	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3003	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3004	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3005	.047uF, 0603, X7R, 25V, 5%	196999-473	

ELECTRICAL PART LIST

Console Main PCB Assembly

Capacitors (continued)

Reference Designator	Description	Part Number	Note
C3006	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3007	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3008	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3009	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3010	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3011	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3012	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3013	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3014	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3015	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3016	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3048	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3049	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3050	.047uF, 0603, X7R, 25V, 5%	196999-473	
C3051	180pF, 0805, COG, 50V, 5%	133622-181	
C3052	180pF, 0805, COG, 50V, 5%	133622-181	
C3055	.01uF, 0805, X7R, 50V, 10%	133623-103	
C3056	180pF, 0805, COG, 50V, 5%	133622-181	
C3057	180pF, 0805, COG, 50V, 5%	133622-181	
C3060	.01uF, 0603, X7R, 50V	191470-103	
C3061	.01uF, 0603, X7R, 50V	191470-103	
C3062	.01uF, 0603, X7R, 50V	191470-103	
C3063	.01uF, 0603, X7R, 50V	191470-103	
C3064	.01uF, 0603, X7R, 50V	191470-103	
C3065	.01uF, 0603, X7R, 50V	191470-103	
C3066	.01uF, 0603, X7R, 50V	191470-103	
C3067	.01uF, 0603, X7R, 50V	191470-103	
C4000	.047uF, 0603, X7R, 25V, 5%	196999-473	
C4001	1uF, EL, 85C, 50V, 20%	177902-010H	
C4002	22uF, EL, 85C, 16V, 20%	177902-220C	
C4003	22uF, EL, 85C, 16V, 20%	177902-220C	
C4008	.047uF, 0603, X7R, 25V, 5%	196999-473	
C4009	1uF, EL, 85C, 50V, 20%	177902-010H	
C4015	3300pF, 0603, X7R, 50V	191470-332	
C4016	2200pF, 0603, X7R, 50V	191470-222	
C4017	2200pF, 0603, X7R, 50V	191470-222	
C4018	.047uF, 0603, X7R, 25V, 5%	196999-473	
C4019	1uF, EL, 85C, 50V, 20%	177902-010H	
C4020	.047uF, 0603, X7R, 25V, 5%	196999-473	
C4021	.01uF, 0603, X7R, 50V	191470-103	
C4022	.01uF, 0603, X7R, 50V	191470-103	
C4023	.01uF, 0603, X7R, 50V	191470-103	
C4024	.047uF, 0603, X7R, 25V, 5%	196999-473	
C4025	.047uF, 0603, X7R, 25V, 5%	196999-473	
C4027	2200pF, 0805, 50V, 5%	133622-222	
C4028	.047uF, 0603, X7R, 25V, 5%	196999-473	

ELECTRICAL PART LIST

Console Main PCB Assembly

Capacitors (continued)

Reference Designator	Description	Part Number	Note
C4029	.01uF, 0603, X7R, 50V	191470-103	
C4030	.01uF, 0603, X7R, 50V	191470-103	
C4031	10uF, EL, 85C, 16V, 20%	177902-100C	
C4032	.047uF, 0603, X7R, 25V, 5%	196999-473	
C4033	.047uF, 0805, X7R, 50V, 10%	133623-473	
C4034	180pF, 0805, COG, 50V, 5%	133622-181	
C4035	68pF, 0805, COG, 50V, 5%	133622-680	
C4036	68pF, 0805, COG, 50V, 5%	133622-680	
C4037	68pF, 0805, COG, 50V, 5%	133622-680	
C4038	.01uF, 0603, X7R, 50V	191470-103	
C4039	82pF, 0805, COG, 50V, 5%	133622-820	
C4041	.01uF, 0805, X7R, 50V, 10%	133623-103	
C4042	180pF, 0805, COG, 50V, 5%	133622-181	
C4043	560pF, 0603, X7R, 50V	191470-561	
C5000	22uF, EL, 85C, 16V, 20%	177902-220C	
C5002	.047uF, 0603, X7R, 25V, 5%	196999-473	
C5003	180pF, 0603, COG, 50V	188454-181	
C5004	180pF, 0603, COG, 50V	188454-181	
C5005	180pF, 0603, COG, 50V	188454-181	
C5006	22pF, 0603, COG, 50V, 5%	188454-220	
C5007	22pF, 0603, COG, 50V, 5%	188454-220	
C5008	22pF, 0603, COG, 50V, 5%	188454-220	
C5009	220pF, 0603, COG, 50V, 5%	188454-221	
C5010	220pF, 0603, COG, 50V, 5%	188454-221	
C5011	220pF, 0603, COG, 50V, 5%	188454-221	
C5032	.047uF, 0603, X7R, 25V, 5%	196999-473	
C5033	.047uF, 0603, X7R, 25V, 5%	196999-473	
C5034	.047uF, 0603, X7R, 25V, 5%	196999-473	
C5035	.047uF, 0603, X7R, 25V, 5%	196999-473	
C5039	1uF, EL, 85C, 50V, 20%	177902-010H	
C5040	.47uF, EL, 85C, 50V, 20%	177902-R47H	
C5044	.047uF, 0603, X7R, 25V, 5%	196999-473	
C5046	.47uF, EL, 85C, 50V, 20%	177902-R47H	
C5048	.01uF, 0603, X7R, 50V	191470-103	
C5050	.47uF, EL, 85C, 50V, 20%	177902-R47H	
C5052	.01uF, 0603, X7R, 50V	191470-103	
C5053	.47uF, EL, 85C, 50V, 20%	177902-R47H	
C5057	10uF, EL, 85C, 16V, 20%	177902-100C	
C5060	.47uF, EL, 85C, 50V, 20%	177902-R47H	
C5061	.47uF, EL, 85C, 50V, 20%	177902-R47H	
C5062	.47uF, EL, 85C, 50V, 20%	177902-R47H	
C5064	1uF, EL, 85C, 50V, 20%	177902-010H	
C5065	100uF, EL, 85C, 16V, 20%	177902-101C	
C5066	220uF, EL, SMD, 105C, 16V, 20%	255071-221C	
C5067	220uF, EL, SMD, 105C, 16V, 20%	255071-221C	

ELECTRICAL PART LIST

Console Main PCB Assembly

Capacitors (continued)

Reference Designator	Description	Part Number	Note
C5068	22uF, EL, 85C, 16V, 20%	177902-220C	
C5069	.047uF, 0603, X7R, 25V, 5%	196999-473	
C5071	.047uF, 0603, X7R, 25V, 5%	196999-473	
C5078	22uF, EL, 85C, 16V, 20%	177902-220C	
C5079	.047uF, 0603, X7R, 25V, 5%	196999-473	
C5080	.047uF, 0603, X7R, 25V, 5%	196999-473	
C5081	.047uF, 0603, X7R, 25V, 5%	196999-473	
C5082	100pF, 0805, COG, 50V, 5%	133622-101	
C5083	100pF, 0805, COG, 50V, 5%	133622-101	
C5084	100pF, 0805, COG, 50V, 5%	133622-101	
C5085	180pF, 0805, COG, 50V, 5%	133622-181	
C5086	180pF, 0805, COG, 50V, 5%	133622-181	
C6000	.047uF, 0603, X7R, 25V, 5%	196999-473	
C7001	.047uF, 0603, X7R, 25V, 5%	196999-473	
C7002	.047uF, 0603, X7R, 25V, 5%	196999-473	
C7003	.047uF, 0603, X7R, 25V, 5%	196999-473	
C7004	.047uF, 0603, X7R, 25V, 5%	196999-473	
C7005	.047uF, 0603, X7R, 25V, 5%	196999-473	
C7006	.047uF, 0603, X7R, 25V, 5%	196999-473	
C7007	.047uF, 0603, X7R, 25V, 5%	196999-473	
C7008	.047uF, 0603, X7R, 25V, 5%	196999-473	
C7009	.047uF, 0603, X7R, 25V, 5%	196999-473	
C7010	.047uF, 0603, X7R, 25V, 5%	196999-473	
C7011	.047uF, 0603, X7R, 25V, 5%	196999-473	
C7012	.047uF, 0603, X7R, 25V, 5%	196999-473	
C7057	22pF, 0603, COG, 50V, 5%	188454-220	
C7058	20pF, 0603, COG, 50V, 5%	188454-200	
C7060	.047uF, 0805, X7R, 50V, 10%	133623-473	
C7061	.01uF, 0603, X7R, 50V	191470-103	
C7062	.01uF, 0603, X7R, 50V	191470-103	
C7102	.01uF, 0603, X7R, 50V	191470-103	

Inductors

Reference Designator	Description	Part Number	Note
L1	100uH	131297	
L2	78uH	196676	
L89	100uH	131297	
L2001	1000uH, 40A, .796Hz, AX	147563-102	
L5000	1.8uH, CERAM1812, 5%	263452-1R8J	
L5001	1.8uH, CERAM1812, 5%	263452-1R8J	
L5002	1.8uH, CERAM1812, 5%	263452-1R8J	
L5003	10uH, SMT, LEM4532	178370-100	

ELECTRICAL PART LIST

Console Main PCB Assembly

Diodes (continued)

Reference Designator	Description	Part Number	Note
D4	SB560	254110-005	
D5	SCHOTTKY, 30V, 3A	193847-001	
D89	SCHOTTKY, 30V, 3A	193847-001	
D1000	DUAL, SOT-23, BAV99	147239	
D1001	DUAL, SOT-23, BAV99	147239	
D1002	DUAL, SOT-23, BAW56	180738	
D1003	DUAL, SOT-23, BAW56	180738	
D1004	DUAL, SOT-23, BAW56	180738	
D2002	DUAL, SOT-23, BAV99	147239	
D3000	SHOTTKY, BAT42W, SOD-123	196984-002	
D3001	SHOTTKY, BAT42W, SOD-123	196984-002	
D4020	DUAL, SOT-23, BAV99	147239	
D4021	DUAL, SOT-23, BAV99	147239	
D4022	DUAL, SOT-23, BAV99	147239	
D4023	DUAL, SOT-23, BAV99	147239	
D5001	DUAL, SOT-23, BAV99	147239	
D5002	DUAL, SOT-23, BAV99	147239	
D5003	DUAL, SOT-23, BAV99	147239	
D5004	DUAL, SOT-23, BAV99	147239	
D5007	DUAL, SOT-23, BAV99	147239	
D5008	DUAL, SOT-23, BAV99	147239	

Transistors

Reference Designator	Description	Part Number	Note
Q1	NPN, SOT, MMBT3904	146819	
Q2	BPLR, P, 40V, 200mA, SOT23	148596	
Q3	BPLR, N, 50V, 100mA, SOT23	146817	
Q4	BPLR, P, 40V, 200mA, SOT23	148596	
Q1000	BPLR, N, 50V, 800mA, SOT23	148770	
Q1001	BPLR, N, 50V, 800mA, SOT23	148770	
Q1002	P, 50V, 2SA1341	146818	
Q1004	P, 50V, 2SA1341	146818	
Q1005	P, 50V, 2SA1341	146818	
Q2000	BPLR, N, 25V, 30MA,SOT-23	187601-001	
Q2001	P, 50V, 2SA1341	146818	
Q2002	NPN, SOT, MMBT3904	146819	EURO, UK, AUS
Q2003	JFET, N, 20V, 20mA, TO-92	148590-E	
Q3048	P, 50V, 2SA1341	146818	

ELECTRICAL PART LIST

Console Main PCB Assembly

Integrated Circuits

Reference Designator	Description	Part Number	Note
U1	VOLT REG, 3.0V, 3.5A, SMPS	193846-001	
U2	VOLT REG, 3.0V, 3.5A, SMPS	193846-001	
U4	VOLT REG, POS, 2.5V, 1.0A, LDO	258495-001	
U25	LM78M10, T220	178352-10	
U89	VOLT REG, 3.0V, 3.5A, SMPS	193846-001	
U150	POWER AMP, 4X302, HSIP2	254541-001	
U151	OP AMP, QUAD, NJM3403AM	194024	
U1000	DAC, 96 KHZ, 3-5V, CS4340-KS	256087-001	
U2000	AM/FM TUNER, MFP-30S	254561-001	
U2033	RDS SIGNAL PROCESSOR	254562-001	EURO, UK, AUS
U2034	PLL FREQ SYNTH, MFP-24	199693	
U3000	DVD DECODER, CS98000	254107-001	
U3002	SDRAM, 64 MBIT, 2MX32, 3.3V	254182-010	
U4000	CODEC, 24-BIT, CS4228A-KS, TS	254192-001	
U4001	BUFFER, TS, 74LCX125, TSSOP14	263182-001	
U4020	RECEIVER, SPDIF, CS8415A, SOIC	254193-001	
U5000	ENCODER, VIDEO, DIG, CS4955-CQ	256088-001	
U5001	SW, AV, 4-INPUT, 2-CH, SSOP36	259495-001	
U5002	OP AMP, QUAD, NJM3403AM	194024	
U5003	LM78M09, T220	178352-09	
U6000	EEPROM, 1K, 24C01A	184044	
U7000	DSP, QFP208, ADSP21065LKS	254191-001	
U7003	SDRAM, 64KX16	254195-010	
U7004	SDRAM, 64KX16	254195-010	
U7007	QUAD, EXCLUSIVE OR, TSSOP	259548-001	
U7008	INVERTER, 5V, 74VCHU04	258464-001	

Miscellaneous

Reference Designator	Description	Part Number	Note
FM-TNR2000	TUNER, FM, 7V (US, DUAL VOLT) TUNER, FM, 7V (JAPAN) TUNER, FM, 7V (EURO, UK, AUS)	258513-001 258513-002 258513-003	
SHLD2000	SHIELD, TUNER (US)	261139-001	
CF2000	FILTER, CER, BANDPASS, FGD, 280KHZ	253037-002	
CF2001	FILTER, CER, BANDPASS, FGD, 220KHZ	253037-001	
FB70	BEAD, FERRITE, CHIP, 1806	256116-181	
FB71	BEAD, FERRITE, CHIP, 1806	256116-181	
J1000	RCA QUAD PACK, SEPARATE GROUND	260031	
J1001	CONN, HOUSING, PHONO, QUAD	149959	
J1002	CONN, DUAL VERTICAL RCA	260134	
J150	CONN, D-SUB, STACKED	255129	
J2000	CONN, ANTENNA JACK, PHONE, 5-PIN	259715	
J2001	CONN, AM ANTENNA	179266	

ELECTRICAL PART LIST

Console Main PCB Assembly

Miscellaneous (continued)

Reference Designator	Description	Part Number	Note
J3048	CONN, HEADER, 40 PIN	256105-001	
J3049	CONN, HEADER, 4 POS	148591-04	
J4020	CONN, OPTICAL, S/PDIF	260030-001	
J5001	S-VIDEO / RCA QUAD PACK	260023	
J6500	CONN, 1.00 MM, 24 PIN, TOP TAPED	190718-T24	
T2000	FILTER, AM IF	254565-001	
T2001	COIL, FM DISCRIMINATOR	254564-001	
T2004	TUNER, AM, FRONT END	195359	
Y2000	CRYSTAL, QUARTZ, 7.2 MHZ, 50 PPM	147223	
Y2100	CRYSTAL, QUARTZ, 4.332 MHZ, 50 PPM	254563-001	EURO, UK, AUS
Y7056	XTAL, 27 MHZ, +/-50PPM, HC-49/U/S	256102-005	

Console LCD Display PCB Assembly

Resistors

Reference Designator	Description	Part Number	Note
R2	56 OHM, 0603, 1/10W, 5%	199403-560	
R3	100 OHM, ARRAY, SMT, 4 POS, 5%	186433-1014	
R4	100 OHM, ARRAY, SMT, 4 POS, 5%	186433-1014	
R5	100 OHM, ARRAY, SMT, 4 POS, 5%	186433-1014	
R6	100 OHM, ARRAY, SMT, 4 POS, 5%	186433-1014	
R20	100 OHM, 0603, 1/10W, 5%	199403-101	
R23	100 OHM, 0603, 1/10W, 5%	199403-101	
R24	100 OHM, 0603, 1/10W, 5%	199403-101	
R26	100 OHM, 0603, 1/10W, 5%	199403-101	
R28	100 OHM, 0603, 1/10W, 5%	199403-101	
R29	100 OHM, 0603, 1/10W, 5%	199403-101	
R30	100 OHM, 0603, 1/10W, 5%	199403-101	
R35	120 OHMS, 0603, 1/10W, 5%	199403-121	
R36	10K, 0603, 1/10W, 5%	199403-103	

Capacitors

Reference Designator	Description	Part Number	Note
C3	.047uF, 0805, X7R, 50V, 10%	133623-473	
C19	.047uF, 0805, X7R, 50V, 10%	133623-473	
C25	.047uF, 0805, X7R, 50V, 10%	133623-473	
C31	47uF, EL, 5.5 MM, 85C, 16V, 20%	177902-470C	

ELECTRICAL PART LIST

Console LCD Display PCB Assembly

Inductors

Reference Designator	Description	Part Number	Note
L1	100uH, IND, SMT, LEM4532	178370-101	

Transistors

Reference Designator	Description	Part Number	Note
Q3	SENSOR, IR, SMT, 38 KHZ	254590-002	

Integrated Circuits

Reference Designator	Description	Part Number	Note
U2	RESET, SOT 23, MAX809, 4.63V	191158-01	

Miscellaneous

Reference Designator	Description	Part Number	Note
DS1	DISPLAY, LCD, 4X43, TN, NEG IMG	254543-001	
DS2	FRAME, DISPLAY	254545-001	
DS3	BACKLIGHT, LED, GREEN	254544-001	
J1	CONN, SMT, RA, 3 POS.	255125-003	
J2	CONN, ZIF, 1 MM, 10 POS, SMT	191479-10	
J3	CONN, SMT, LIF, 24 POS., SIDE	255130-024	
CF1	RESNTR, CER, W/ INTGRD CAPS, 8 MHZ	191446-8R00	
-	CONN, DISPLAY, ELASTOMER, WHITE	254546-001	
-	CONN, LED BACKLIGHT, ELASTOMER	255135-001	
-	DIFFUSER, LIGHT	260469-001	

ELECTRICAL PART LIST

Bass Module PCB Assembly

Resistors

Reference Designator	Description	Part Number	Note
R3	1.00K, MF, 1/4W, 1%, 52 MM	121245-2211001	
R4	1.05K, MF, 1/4W, 1%, 52 MM	121245-2211051	
R6	51.1K, MF, 1/4W, 1%, HAIRPIN	121245-2225112	
R7	1.00K, MF, 1/4W, 1%, HAIRPIN	121245-2221001	
R8	1.00K, MF, 1/4W, 1%, HAIRPIN	121245-2221001	
R9	1.00K, MF, 1/4W, 1%, HAIRPIN	121245-2221001	
R10	1.00K, MF, 1/4W, 1%, HAIRPIN	121245-2221001	
R11	1.00K, MF, 1/4W, 1%, HAIRPIN	121245-2221001	
R12	64.9 OHM, MF, 1/4W, 1%, HAIRPIN	121245-22264R9	
R13	1.00K, MF, 1/4W, 1%, HAIRPIN	121245-2222001	
R14	6.81K, MF, 1/4W, 1%, 52 MM	121245-2216811	

Capacitors

Reference Designator	Description	Part Number	Note
C9	.47uF, BOX, 85C, 50V, 5%	137127-474	
C13	.47uF, BOX, 85C, 50V, 5%	137127-474	
C14	.47uF, BOX, 85C, 50V, 5%	137127-474	
C15	0.01uF, CER, X7R, 50V, 20%	263535-103T1	
C16	0.01uF, CER, X7R, 50V, 20%	263535-103T1	
C17	0.01uF, CER, X7R, 50V, 20%	263535-103T1	
C19	0.1uF, CER, X7R, 50V, 20%	263535-104T2	
C20	10uF, EL, 105C, 16V, 20%	137126-100	
C21	.047uF, BOX, 85C, 63V, 5%	137127-473	
C23	.22uF, BOX, 85C, 50V, 5%	137127-224	
C24	.22uF, BOX, 85C, 50V, 5%	137127-224	
C25	10uF, EL, 105C, 16V, 20%	137126-100	
C26	22000uF, EL, 105C, 25V, 20%, SNAP IN	261614-223EB3	

Diodes

Reference Designator	Description	Part Number	Note
BR1	RECTIFIER, BRIDGE	187611-001	 ³
ZR1	ZENER, 16V, .5W, 5%, 1N5246	136758-5246	

Transistors

Reference Designator	Description	Part Number	Note
Q1	MOSFET, N, TO-220FP	257359-001	
Q2	BPLR, P, 60V, 200mA, TO-92	119168	
Q3	BPLR, P, 60V, 200mA, TO-92	119168	

ELECTRICAL PART LIST

Bass Module PCB Assembly

Integrated Circuits

Reference Designator	Description	Part Number	Note
U1	PWR AMP, MULT-11, 45W, TDA7396	177279	

Miscellaneous

Reference Designator	Description	Part Number	
VR1	VARISTOR, MET OX, 150V, 45 JOULE (US) VARISTOR, MET OX, 275V, 75 JOULE (NON-US)	170186 170189	 ³
F1	2.5A, 250V, .60 x .19, SLO-BLO (US, JAPAN, DUAL) 1.25A, 250V, 5X20 MM, SLO-BLO (EURO, UK, AUS)	135677-09 177311-01250	 ³
-	FUSECLIP, 5MM	178548	 ³
J1	CONN, HOUSING, AC, 2 POS, FEMALE	260116-001	 ³
J3	CONN, HEADER, TOP ENTRY (US, JAPAN)	193369-002	 ³
J4	CONN, HEADER, TOP ENTRY (EURO, UK, AUS)	193369-002	 ³
J5	CONN, HEADER, IN LINE, PCB MNT, 5 POS	133220-05	
J6	CONN, D-SUB, R/A, 15 PIN, SOCKET	260917-15	
J7	CONN, HEADER, IN LINE, PCB MNT, 2 POS	133220-02	
S1	SWITCH, AC POWER, PC MNT (EURO, UK, AUS)	266092-001	 ³
S2	SWITCH, SLIDE, DPDT, VOLT SELECT (DUAL)	266091-001	 ³
XJ1	BRACKET, SUPPORT, AC CONNECTOR	257452-001	 ³

DISASSEMBLY PROCEDURES

Console Procedures

CAUTION: The DVD drive mechanism should not be closed by pushing it shut with no power applied to the console. Doing so could damage the drive. It must be closed with power applied so that the locking mechanism inside the drive will engage properly when the drawer is closed.

Note: Refer to Figure 4 for the following procedures.

1. Top Cover Removal

1.1 Place the console on the bench with the front facing toward you. On the rear of the console and using finger pressure only, press inward in the center of the rear panel just below the edge of the top cover (2). When you have pressed the rear panel in approximately 1/4", lift upward on the top cover and release the pressure on the rear panel of the console. The finger in the center of the top cover should be sitting on top of the corresponding latch hole in the rear panel. Once the center finger has cleared, lift upward on the rear edge of the top cover until the four tabs to the sides clear the console rear panel.

1.2 Slide the top cover to the rear of the console approximately 1/2". Lift off the top cover.

2. DVD Drive Removal

2.1 Perform procedure 1.

2.2 Using two large flat-tip screwdrivers, press down and pry the tabs on one side of the spring clamp (3) away from the casting (14) at the corners. Lift the spring clamp off of the DVD drive.

2.3 Apply power to the console and press the STOP/EJECT button to open the DVD drawer. Once the drawer is open, remove the DVD drawer bezel (27). Press the STOP/EJECT button again to retract the drawer. Remove power from the console.

2.4 Remove the ATAPI shield over the back of the DVD drive. If your unit has the folded foil type, peel the foil back from the rear of the DVD mechanism until you can access the cables. If you have the formed metal shield, lift up the rear of the DVD mechanism and slide the shield off. Unplug the ATAPI and power cables from the rear of the DVD mechanism.

2.5 If you could not apply power to the console to remove the drawer bezel in step 2.3, lift up on the back of the DVD drive until the DVD drawer bezel (27) pops off the front of the DVD drive drawer. You need to lift the drive up quite a bit to get this to work. Once the drawer extension is off, slide the DVD drive to the rear until it is out from under the edge of the bezel.

Re-assembly note: Be sure to install the two Phillips-head screws (6) that were removed in step 3.5. These screws are used to align the drive with the console casting (14).

3. Main PCB Removal

3.1 Perform procedure 2.

3.2 Unplug the ribbon cable at J6500 on the main PCB (20). This cable runs to the display PCB (25). Carefully lift off the adhesive foil strip from the casting. This strip runs under the ribbon cable from the casting to the display PCB. You will need to re-use this strip later.

3.3 Using a size T-15 Torx head driver, remove the nine screws (13) that secure the casting (14) and main PCB (20) to the console base (21).

3.4 Remove the clip (12) that secures the amplifier output IC to the heatsink (9). Carefully pry the output IC slightly away from the heatsink. Lift the casting and heatsink assembly out of the chassis. Be sure to retain the two thermal pads under the casting.

DISASSEMBLY PROCEDURES

3.5 On the rear of the console base (21), unclip the four tabs that secure the I/O panel (19) to the base. Pull away and down on the top of the I/O panel until it unclips from the base. It should come off completely.

3.6 Carefully lift the front edge of the main PCB (20) out of the base. Slide the main PCB forward slightly until it clears the jacks on the back of the board. Lift the main PCB out of the base.

Re-assembly notes:

- Be sure to install a thermal barrier, Bose part number 267574-001 into the console chassis before re-installing the main PCB.
- On the main PCB, check to make sure that the large thermal pad (16) is in place on top of the DVD decoder IC (U3000) and the small thermal pad (17) is in place on top of the CODEC IC (U4000). Check that the eight small EMI shield conductive strips (15,18) are in place in the groove around the bottom of the casting (14).
- On the heatsink (9), use a straight-edge razor blade to scrape off any thermal phase change pad (11) material. Take care to not scratch the coating on the heatsink. Clean off any residue with alcohol. On the main PCB, clean any thermal phase change pad residue off of the output IC. Apply a small amount of thermal compound to the back of the output IC.

4. LCD Display PCB Removal

4.1 Perform procedure 2.

4.2 On the main PCB (20), unplug the ribbon cable at jack J6500. Peel off the foil ground strap (24) located directly under the ribbon cable. You will need to re-install this later.

4.3 Using a small flat-tip screwdriver, press in the tabs that secure the bezel sub assembly (26) to the console base (21). There are two located at the top of the base behind the front panel near the ribbon cable and the heatsink (9). There are two more inside the opening for the DVD drawer.

Release the four tabs on the bottom of the base directly behind the bezel sub assembly. Take care not to drop the LCD display PCB.

4.4 Place the bezel sub assembly face down on a soft surface. Lift the LCD display PCB out of the bezel sub assembly. Using a small flat-tip screwdriver, flip up the edge of the ZIF connector at J2. Unplug the ribbon cable. Take care to not plug and unplug this cable too many times. It has a carbon coating that wears off after just a few removals and insertions, ruining the cable.

Bass Module Procedures

Refer to Figure 2 for the following procedures.

1. Rear Enclosure Removal

1.1 Place the bass module on its side. Using a Phillips-head screwdriver, remove the four screws (9) that secure the rear enclosure (8) to the bass module.

1.2 Slide the rear enclosure off of the bass module.

2. Power Transformer Removal

2.1 Perform procedure 1.

2.2 On the bass module PCB/heatsink assembly, unplug the cables at J3 and J5 that run to the power transformer. Unplug the woofer harness cable at J7.

2.3 Using an 8/32" nut driver, remove the four nuts (6) that secure the power transformer (7) to the bass module enclosure.

2.4 Lift the power transformer off of the mounting studs (5) and out of the enclosure.

DISASSEMBLY PROCEDURES

3. Bass Module PCB/Heatsink Assembly Removal

3.1 Perform procedure 1.

3.2 On the bass module PCB/heatsink assembly (10), unplug the cables at J3 and J5. Unplug the woofer harness cable at J7.

3.3 Remove the four screws (11) that secure the bass module PCB/heatsink assembly to the enclosure. Lift it out of the enclosure.

3•2•1 Satellite Array Procedures

Note: The standard 321 (non-GS) satellite arrays are non-repairable. The only parts that can be replaced are the grille and the nameplate.

1. Grille Removal

1.1 Wrap some masking tape around the shaft of a flat-tip screwdriver approximately 1/2" back from the end. This is needed to protect the plastic enclosure of the array.

1.2 Place the satellite array on its back on a bench. Use your thumb to press down on the array grille at the center of the curve near the side. At the same time, use the screwdriver to pry the end of the grille off of the array enclosure. Repeat this at the other end of the grille.

2. Nameplate Removal

2.1 Perform satellite array procedure 1.

2.2 On the back of the grille (1), unbend the two metal legs that secure the nameplate (2) to the grille. Pull the nameplate away from the grille.

3•2•1 GS Satellite Array Procedures

Note: Refer to the figure below for the following procedures.

1. Grille Removal

1.1 Using a scribe or small flat blade screwdriver to grasp the edge of the grille (2). Gently pull the grille away from the enclosure.

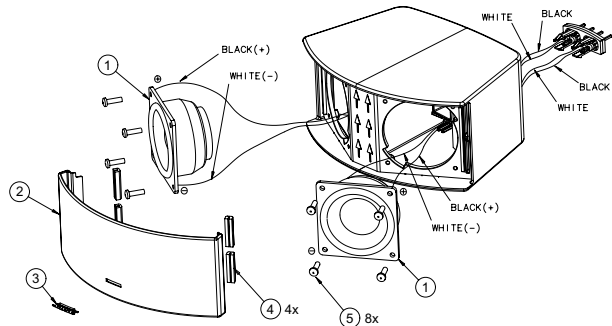
2. Twiddler™ Removal

2.1 Perform procedure 1.

2.2 Using a Philips-head screwdriver, remove the four screws (5) that secure the driver (1) you wish to remove.

2.3 Lift the driver out of the enclosure and remove the two faston connectors of the wiring harness.

Re-assembly note: Be sure that the driver gasket is properly aligned behind the driver to ensure an airtight seal.



TEST PROCEDURES

3.2.1 Required Test Equipment and Cables

1. Audio Signal Generator.
2. Analog to S/PDIF converter
3. S/PDIF to optical converter
4. Abex test DVD (TDV-540A)
5. Video monitor
6. Composite Video cable
7. S-Video cable
8. Optical cable
9. Oscilloscope
10. Volt Meter
11. AM/FM Signal Generator.
12. Model 3•2•1 remote control part number 259820-001.
13. Model 3•2•1 TAP cable, p/n 266603
14. B+B Electronics RS-232 to TTL level shifter, model 232LPTTL (available on-line at: <http://www.bb-elec.com>).
15. IBM Compatible PC
16. Test CDs as listed below or equivalent.

Parameter	Nominal	Limit	Suggested Test disc
Defect Tracking (void)	1.0 mm	0.8 mm	Pierre Vernay, test CD#2
Defect Tracking (black dot)	1.0 mm	0.8 mm	ABEX test disc TCD-725R
Defect Tracking (scratch)	1.6 mm	1.0 mm	ABEX test disc TCD-721 R
Defect Tracking (finger print)	75 mm	65 mm	ABEX test disc TCD-725R
Defect Tracking (warped disc)	1.0 mm	0.7 mm	ABEX test disc TCD-732RA
Defect Tracking (eccentric disc)	210 mm	140 mm	ABEX test disc TCD-714R

TEST PROCEDURES

1. Initial Product Test

Note: Before taking the unit apart or performing any repair process, an attempt to verify the customer complaint must be made.

1.1 Read any customer note included with the unit.

2. Verify Customer Complaint

2.1 Attempt to verify the complaint before opening the unit or performing any repairs. Customer complaint not verified, discuss with customer.

2.2 Customer complaint verified, troubleshoot and repair the unit.

3. Check the software revision of the unit. Refer to the Bose® service extranet site, <http://serviceops.bose.com> for information regarding the latest software revision.

3.1 Main PCB Firmware Check

3.1.1 Remove power from the console for at least five seconds.

3.1.2 Re-apply power, and within five seconds, press the EJECT, SKIP UP and VOLUME UP buttons all at once for at least seven seconds. You may see the display flashing during this time.

3.1.3 After seven seconds, release all of the buttons at once. You should see a display like “321 247” on the console. This example shows that version 2.47 of the main PCB firmware is installed on this particular console.

3.2 Display PCB Firmware Check

3.2.1 Remove power from the console for at least five seconds.

3.2.2 Re-apply power, and within five seconds, press the EJECT, SKIP UP and SOURCE DOWN buttons all at once for at least seven seconds. You may see the display flashing during this time.

3.2.3 After seven seconds, release all of the buttons at once. You should see a display like “03.52:7321” on the console. This example shows that version 3.52 of the display PCB firmware is installed on this particular console.

4. Verify Performance and all functions. Use the procedures below.

4.1 Tuner performance procedures.

4.2 Input/Output performance procedures.

4.3 CD performance procedures.

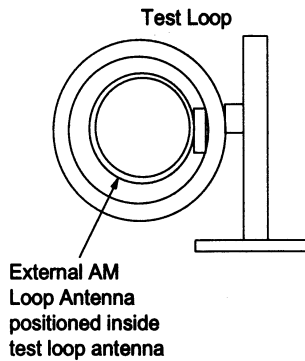
4.4 User Interface Performance Verification.

TEST PROCEDURES

AM Performance Tests

AM Tuner General Test Setup

Setup a loop antenna as shown.



AM Antenna Test Setup

1. AM Sensitivity Test

1.1 Set the RF generator output to 70 dBuV/M, 30% AM modulation, 400Hz and the unit and RF generator to 1080 kHz.

1.2 Reference a dB meter to the left or right line level output.

1.3 Turn off the RF generator's modulation.

1.4 The line level output should measure ≤ -20 dB, SNR.

2. AM Stop Level Test

2.1 Set the RF generator to 1130 kHz, AM modulation, 400 Hz modulation, 71 dB emf.

2.2 Place the unit into seek and verify the unit stops at 1130 kHz.

2.3 Switch the RF generator for a 55 dBuV/M field intensity and verify the unit does not stop at 1130 kHz.

Note: Make sure the output impedance of the RF signal generator is matched to the console's 75 ohm FM antenna input impedance. If using a 50 to 75 ohm adaptor, add the insertion loss (~ 5.7 dB) to the RF generator settings in the following tests.

3. FM Sensitivity Test

3.1 Set the RF generator to 98.1 MHz, 1 kHz mono modulation, pilot off, 75 kHz deviation, 52 dB emf at the unit's FM antenna input.

3.2 Measure the distortion at the left or right line level output. It should be $\leq 3.0\%$.

4. FM Stop Level Test

4.1 Set the RF generator to 98.9 MHz, 1 kHz mono modulation, pilot off, 75 kHz deviation, 42 dB emf, at the unit's FM antenna input.

4.2 Place the unit into seek and verify that it stops at 98.9 MHz.

4.3 Reduce the RF generator to 31 dB emf.

4.4 Tune the unit to 98.1 MHz and then place the unit into seek. Verify the radio does not stop at 98.9 MHz.

TEST PROCEDURES

5. Inputs/Outputs Verification

Test	Functional test for the...	Connect the Media Center...	To...	and select the console source...	Listen/look for..
1	Analog audio Inputs	VIDEO 1 analog audio input...	an analog source...	VIDEO 1.	a clean undistorted audio output from the speakers.
		VIDEO 2 analog audio input...		VIDEO 2.	
		AUX analog audio input...		AUX.	
2	Digital (S/PDIF) and optical audio inputs.	VIDEO 1 digital (S/PDIF) audio input...	a digital (S/PDIF) source...	VIDEO 1.	a clean undistorted audio output from the speakers
		VIDEO 2 digital (S/PDIF) audio input...		VIDEO 2.	
		AUX digital (S/PDIF) audio input...		AUX.	
		VIDEO 1 Optical audio input...	the optical output of a source...	VIDEO 1	
3	Audio Output.	Analog audio output....	to the analog input of a device...	CD. (insert a CD).	a clean undistorted audio output from the source.
4	S-Video and Composite video input	S-Video input...	to the S-Video output of a source...	VIDEO 1.	a clean undistorted output from the...
		Composite video input...	to the Composite video output of a source...		S-Video output. Compo-site video output

6. CD Performance Test

6.1 The media center should be able to play the test discs listed in the following table.

Parameter	Nominal	Limit	Suggested Test disc
Defect Tracking (void)	1.0 mm	0.8 mm	Pierre Vernay, test CD#2
Defect Tracking (black dot)	1.0 mm	0.8 mm	ABEX test disc TCD-725R
Defect Tracking (scratch)	1.6 mm	1.0 mm	ABEX test disc TCD-721 R
Defect Tracking (finger print)	75 um	65 um	ABEX test disc TCD-725R
Defect Tracking (warped disc)	1.0 mm	0.7 mm	ABEX test disc TCD-732RA
Defect Tracking (eccentric disc)	210 mm	140 mm	ABEX test disc TCD-714R

TEST PROCEDURES

7. User interface test

7.1 Press each button on the console control panel and ensure its operation.

7.1.1 Press the Power button on the console control panel. Ensure the unit turns on.

7.1.2 To ensure remote operation, select at least one function (i.e. FM/AM) and ensure the unit responds appropriately to the remote control.

7.1.3 Press the volume up (+) and down (-) button on the console control panel and ensure the unit responds appropriately.

7.1.4 With the radio tuned to a station, press the Enter button on the console control panel. The display shows, STORE <number>? Press Enter again to save the preset.

7.1.5 Using the remote, tune to the preset station you set in procedure 7.1.4. Press Enter on the console control panel. The display shows, ERASE <number>? Press Enter again to delete the preset.

7.1.6 Press either Source button. Ensure, with each press, the display cycles through the various sources.

7.1.7 Press the Stop/Eject button. Ensure the DVD/CD drawer opens and then press it once more to shut the drawer.

7.1.8 Press the Power button. Ensure the unit shuts off.

3•2•1 System Date of Manufacture Information

Console - The product label for the console is located on the bottom of the unit. The date of manufacture for the console is embedded in the serial number on the label. The following is an example:

Ser. No. 027748C12675109AZ

You will notice that there are four numbers underlined. This is the date of manufacture.

The way it is read is that the first digit underlined represents the year of manufacture. The 1 indicates 2001.

The next three digits are the Julian date for the day of the year. In this example that would be the 267th day of the year.

Bass Module - The date of manufacture information is embedded into the product serial number in the same format as is used for the console.

The product label for the bass module is located on the rear of the cabinet. The following is an example:

Ser. No. 027724912420677AS

You will notice that there are four numbers underlined. This is the date of manufacture.

The way it is read is that the first digit underlined represents the year of manufacture. The 1 indicates 2001.

The next three digits are the Julian date for the day of the year. In this example that would be the 242nd day of the year.

Parental Control Information

The parental control circuitry prevents unauthorized viewing of DVDs above a user specified setting. The user is required to set a four number password for DVDs with ratings above the rating set by the user. If a user forgets what his four number password is, he/she will not be able to view movies above the set rating. If a customer has forgotten his password, there is a generic password that can be used to bypass the lock-out. The password is BOSE (2673), as spelled on a telephone. Once the original password has been bypassed, the customer can set a new one. The parental control settings used in the 3•2•1 Home Entertainment System are from 1 to 8, with 8 being the lowest security and 1 the highest. See the table below for a listing of the settings and how they correspond to the various Motion Picture Association of America (MPAA) ratings.

DVD Rating	General Description of Rating	MPAA Rating
8	Unrated (generally most restricted)	
7	Adult audiences	NC-17
6	Mature audiences	R
5	Mature teenage audiences	
4	Teenage audiences	PG-13
3	Mature young audiences	PG
2	Most audiences	
1	General (unrestricted audiences)	G

Table 1. 3•2•1 Console DVD Parental Control Rating Codes

Changing the 3•2•1 Console Region Code

Note: You can only change the region code for a console a total of 4 times. After that the console will set the region code to the last one changed to permanently.

1. Connect the B+B RS-232 to TTL converter to one of the serial data ports on the back of your IBM compatible PC. Connect the TAP interface cable, part number 266603, to the B+B converter. Plug the other end of the cable into J1 of the 3-2-1 console display board. This connector can be accessed from outside the cabinet, under the right side of the front of the console.

2. Set up your computer as shown in the computer setup procedure on pages 48-49 of this manual.

3. Power up the 3•2•1 system console. On the PC, open the terminal window that you have set up using the computer setup procedure. Open the connection between the PC and the console.

4. On the console, place a DVD disc of the region that you want to change to into the console tray. For example, if you wanted to change a region code 1 console to region 2, you would place a region code 2 DVD disc into the console. Let the disc spin up. The display will read "loading".

5. On the PC, type in the applicable TAP command from the table below and press ENTER on the keyboard. The region code will have changed to the new region. Refer to the table on the following page.

Changing the 3•2•1 Console Region Code (continued):

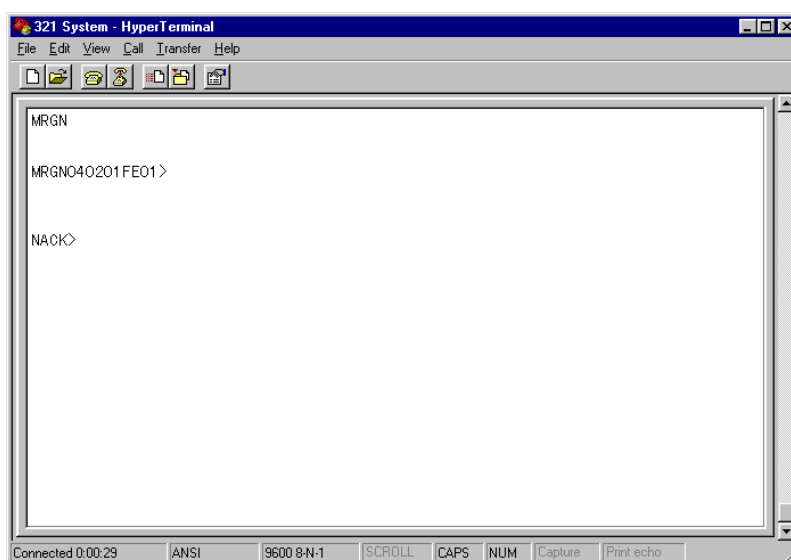
Regions Covered	Region Code	Command	MRGN Command Response
U.S., Canada, Puerto Rico	1	LXTP09	MRGN04xx01FE01
Europe, Middle East, Japan	2	LXTP0a	MRGN04xx01FD01
Southeast Asia, Hong Kong, Taiwan	3	LXTP0b	MRGN04xx01FB01
Central America, Mexico, South America, Australia, New Zealand	4	LXTP0c	MRGN04xx01F701
Russia, Africa (except Egypt and South Africa), India, Pakistan	5	LXTP0d	MRGN04xx01EF01
China	6	LXTP0e	MRGN04xx01DF01

Table 2. Region Code Tap Commands and Responses

You can check to see what region code your console is set to by typing in the MRGN command in the terminal window. The console will respond with a message similar to the one at right.

At right you will see that the console has responded MRGN040201FE01. The first two characters after the MRGN are 04, and they indicate the number of times that the drive manufacturer can reset the drive. It will almost always be 04. The next two characters are the number of times remaining

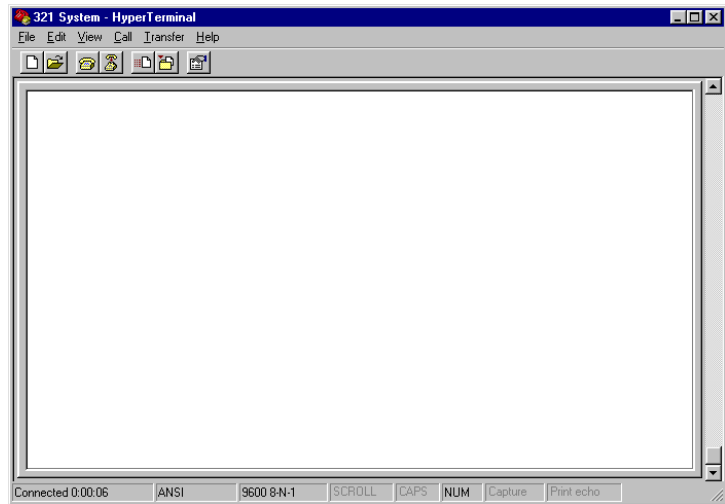
that a service center can reset the region code. In this example there are two more changes (02) remaining. The next two characters (01) are the type code, which indicates the status of the drive: 00 = no drive region set; 01 = drive region set; 02 = drive region set /w additional restrictions (last chance), 03 = drive region has been set permanently. This number increments when the drive approaches the last time it can be changed before it is set permanently to the selected region. The next two characters are an eight bit hexadecimal representation of the region that the drive is currently set to. In the example, the FE corresponds to region 1. The other regions are listed in the table above. The last two characters are for the CSS encryption. For all units in the field, these two characters will always be 01.



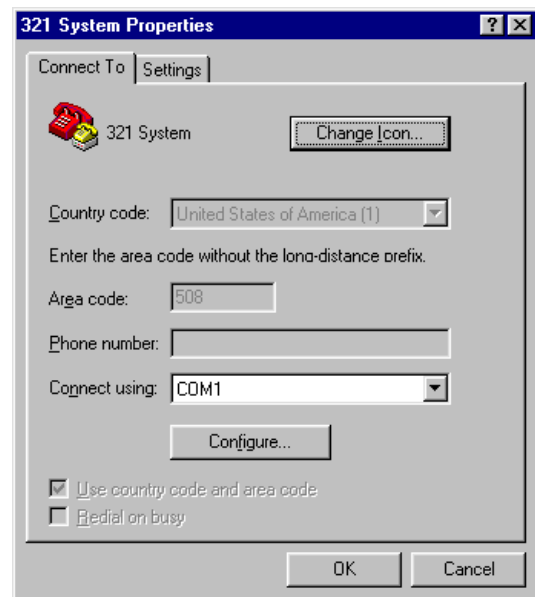
Computer Setup Procedure

Use this procedure to set up your IBM compatible PC for communication with the 3•2•1 system console.

1. Open a terminal window, as shown at right, in either Terminal or Hyperterm, as applicable for the version of Microsoft® Windows® you are using on your PC.

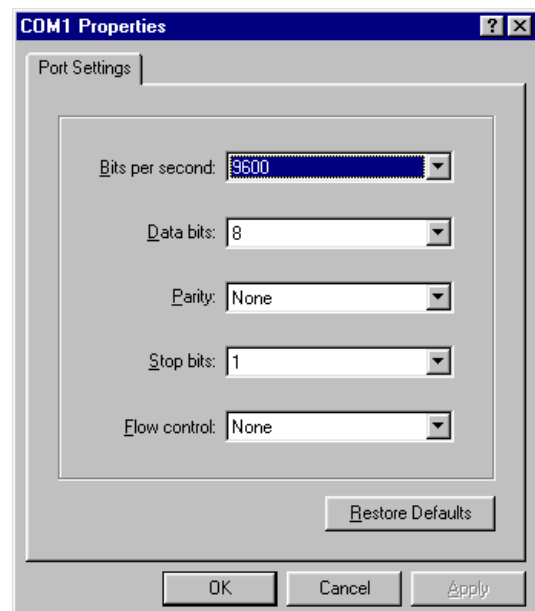


2. In the terminal window, click on FILE, then PROPERTIES. Set the properties in the dialog box as shown at right.



3. In the properties dialog box shown in step 2, click on CONFIGURE to set the COM1 Properties as shown at right. Click OK to return to the properties dialog box.

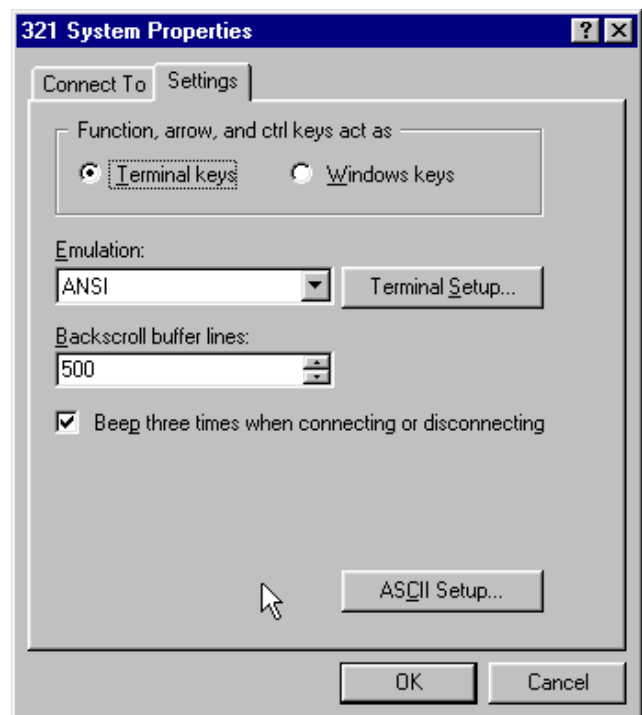
See the next page for the conclusion of this setup procedure.



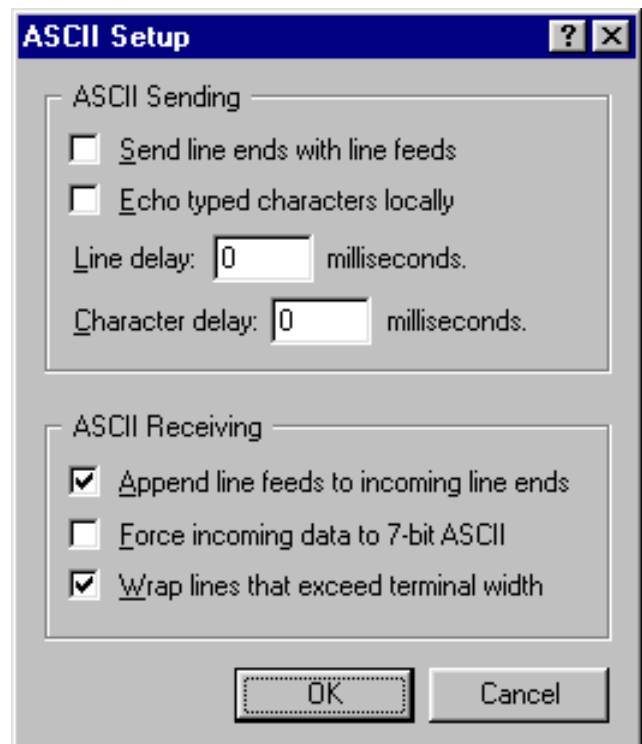
Computer Setup Procedure (continued)

4. In the properties dialog box, click on the SETTINGS tab and set the controls as shown in the example at right.

Note: Be sure to check "Beep three times when connecting or disconnecting".



5. In the properties dialog box under the SETTINGS tab, click on the ASCII Setup button and set the controls to look like the example at right. Click OK to return to the properties dialog box.



6. Once you have made all of the settings in the properties dialog box, click OK to close it. You have now configured your PC to communicate with the 3•2•1 system console. To connect to the console under test, in the terminal window, click on CALL, then CONNECT and listen for 3 beeps. This will tell you that the PC is connected to communicate with the console. When you have completed your session, click on CALL, then DISCONNECT to end communication with the console.

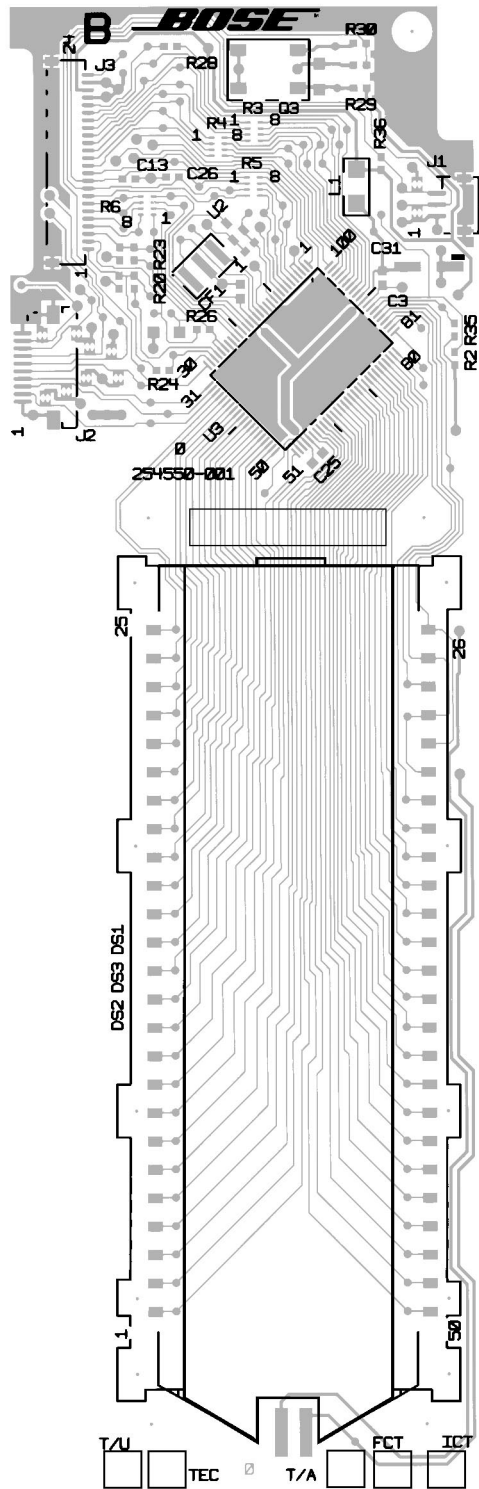


Figure 8. LCD Display PCB P/N: 254550-001 Rev. 00 Component and Topside Etch Diagram

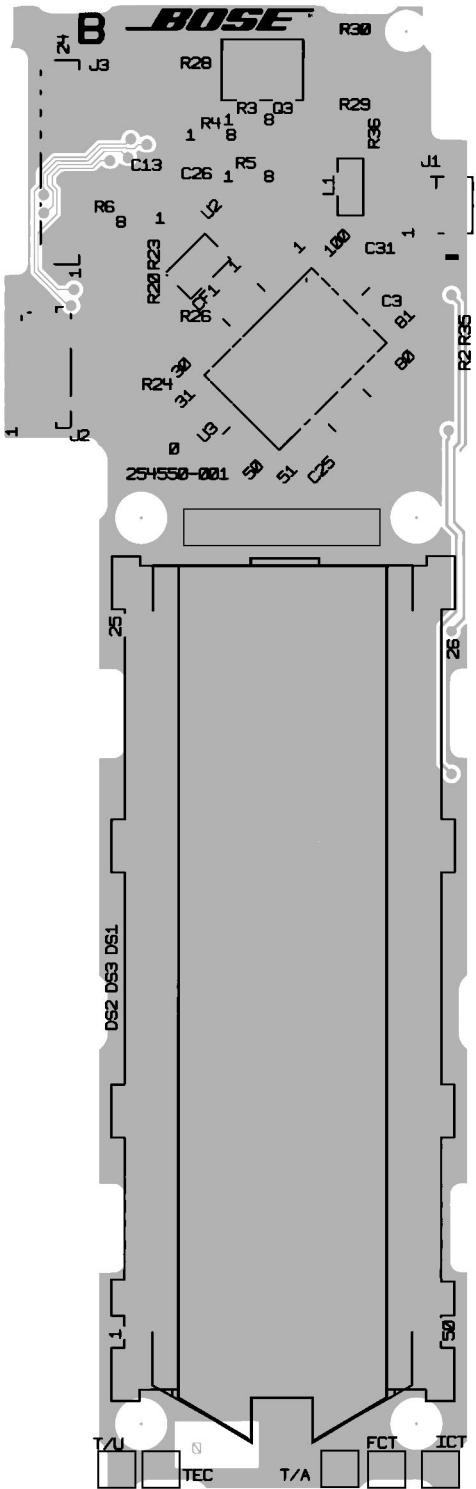
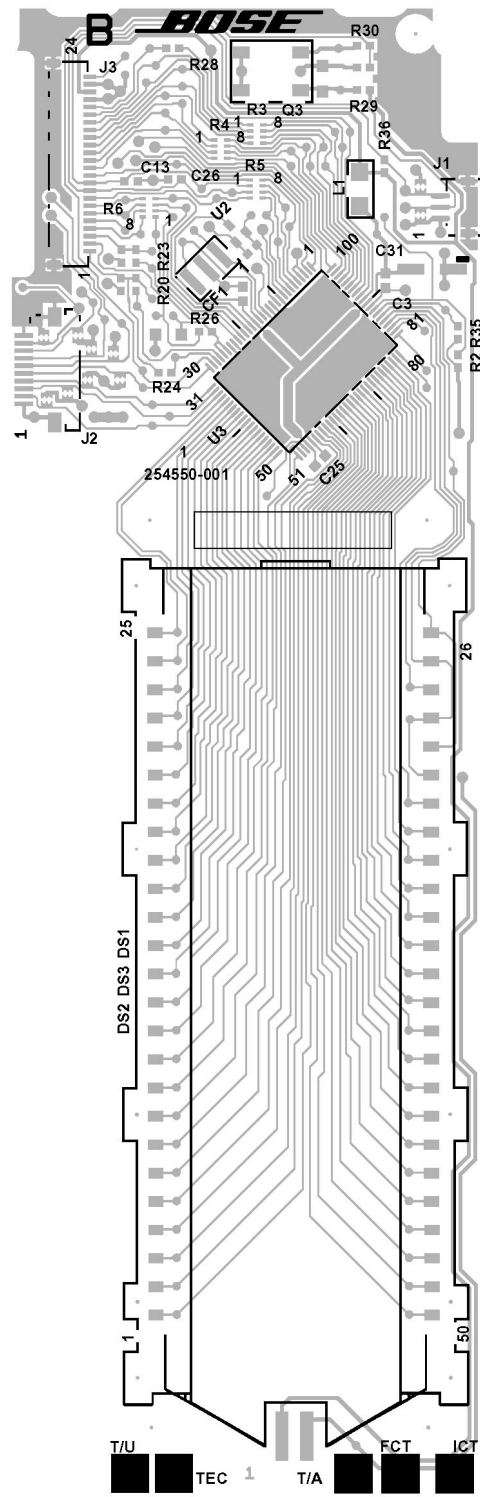
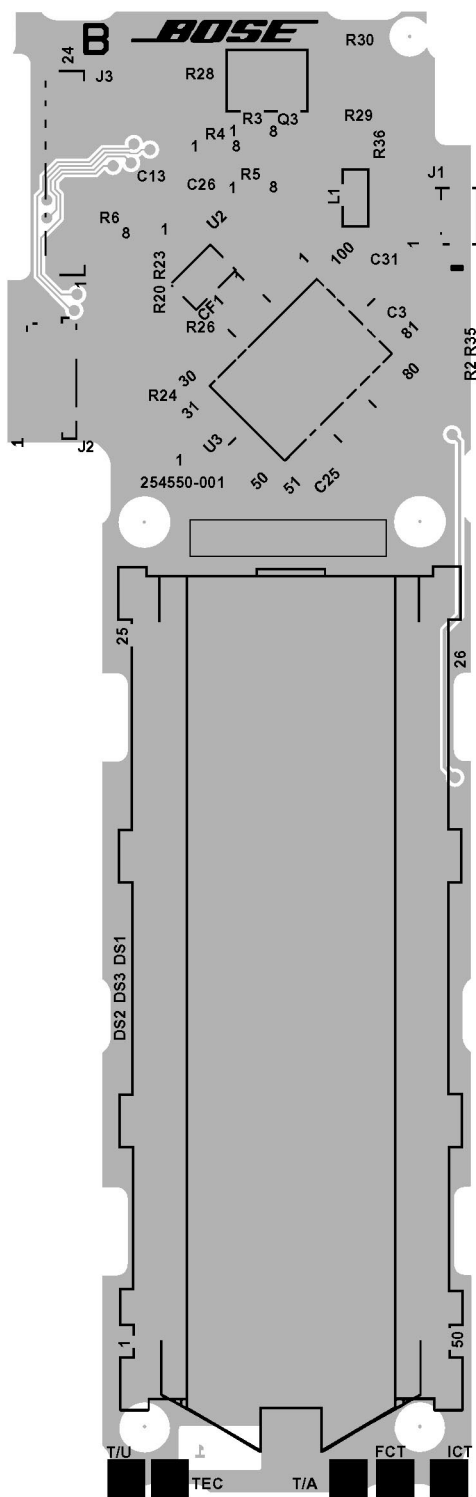


Figure 9. LCD Display PCB P/N: 254550-001 Rev. 00 Component and Bottom Etch Diagram



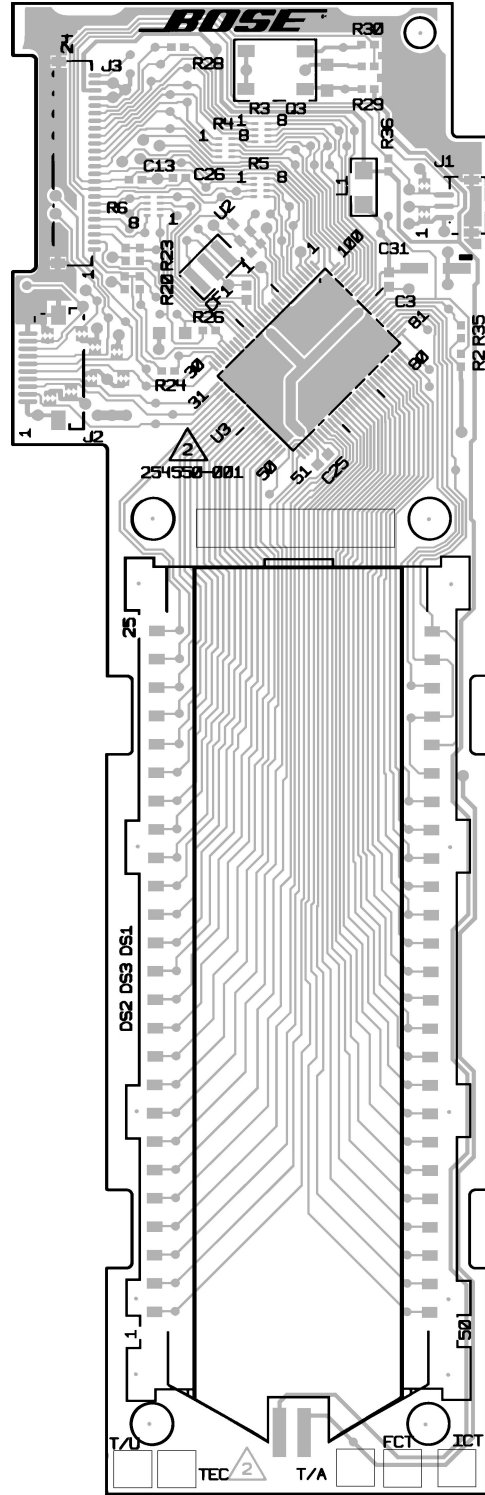


Figure 12. LCD Display PCB P/N: 254550-001 Rev. 02 and 03 Component and Topside Etch Diagram

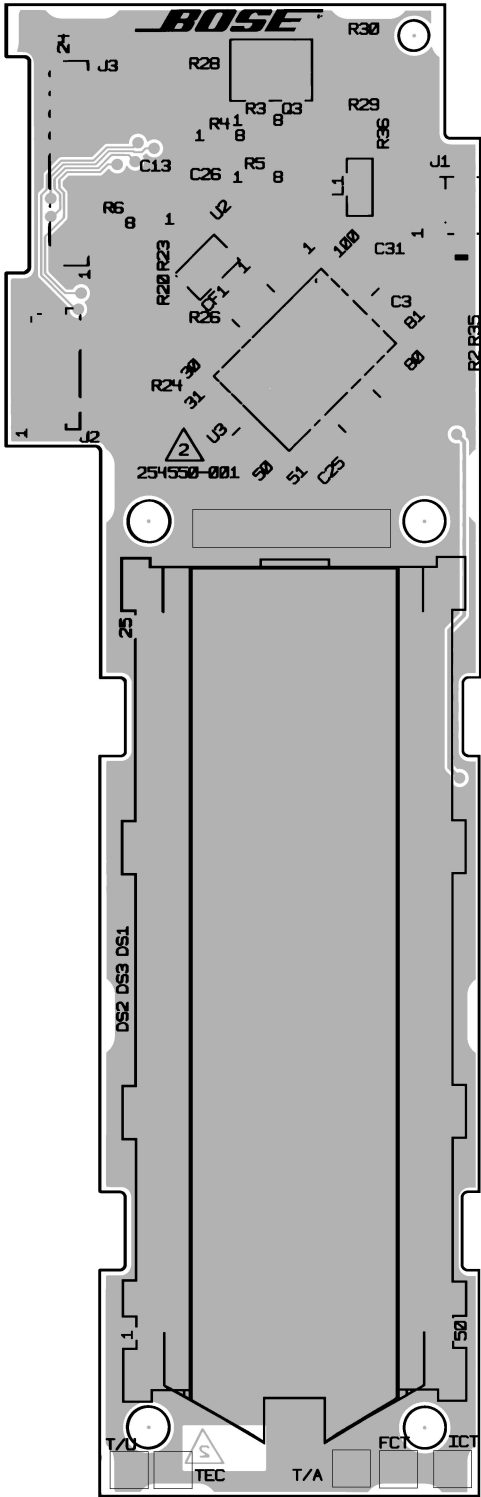
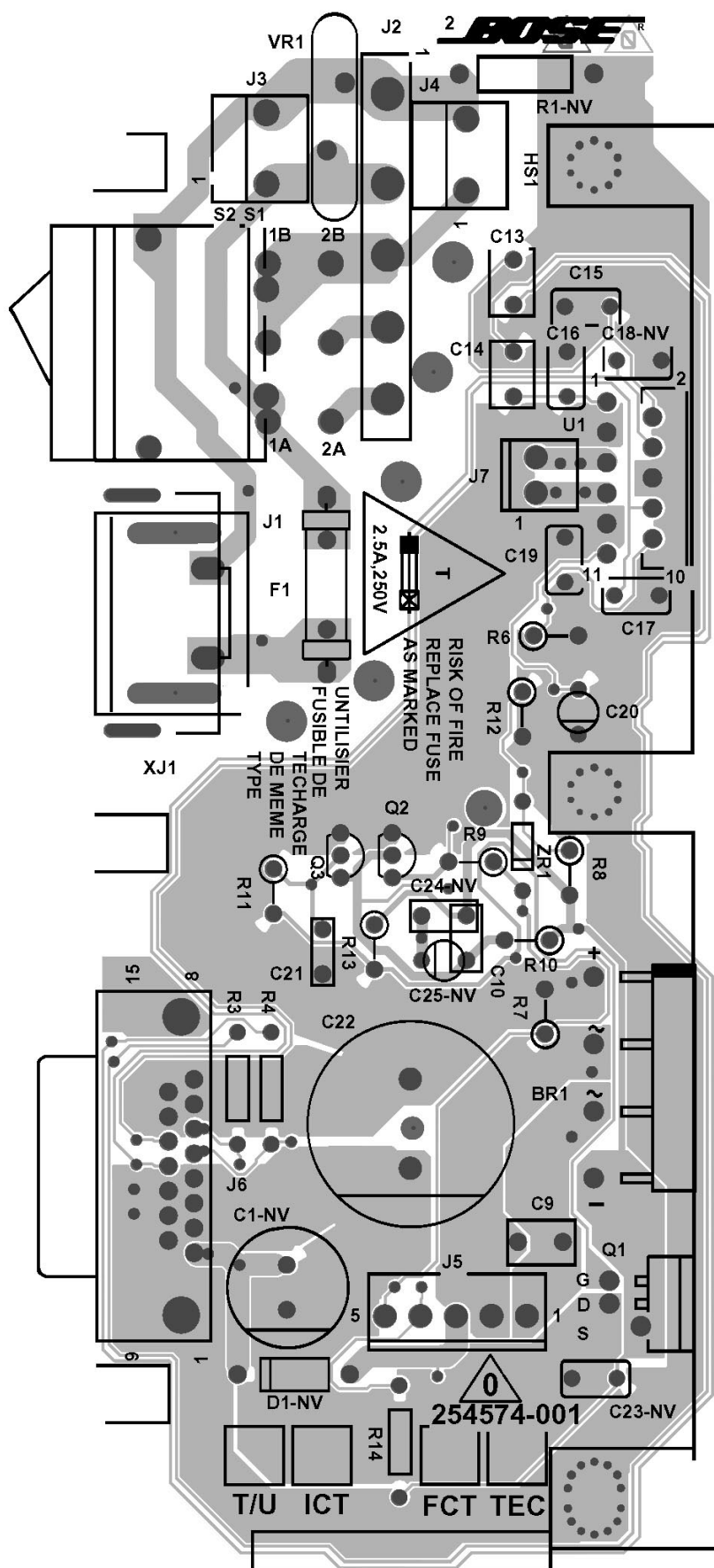
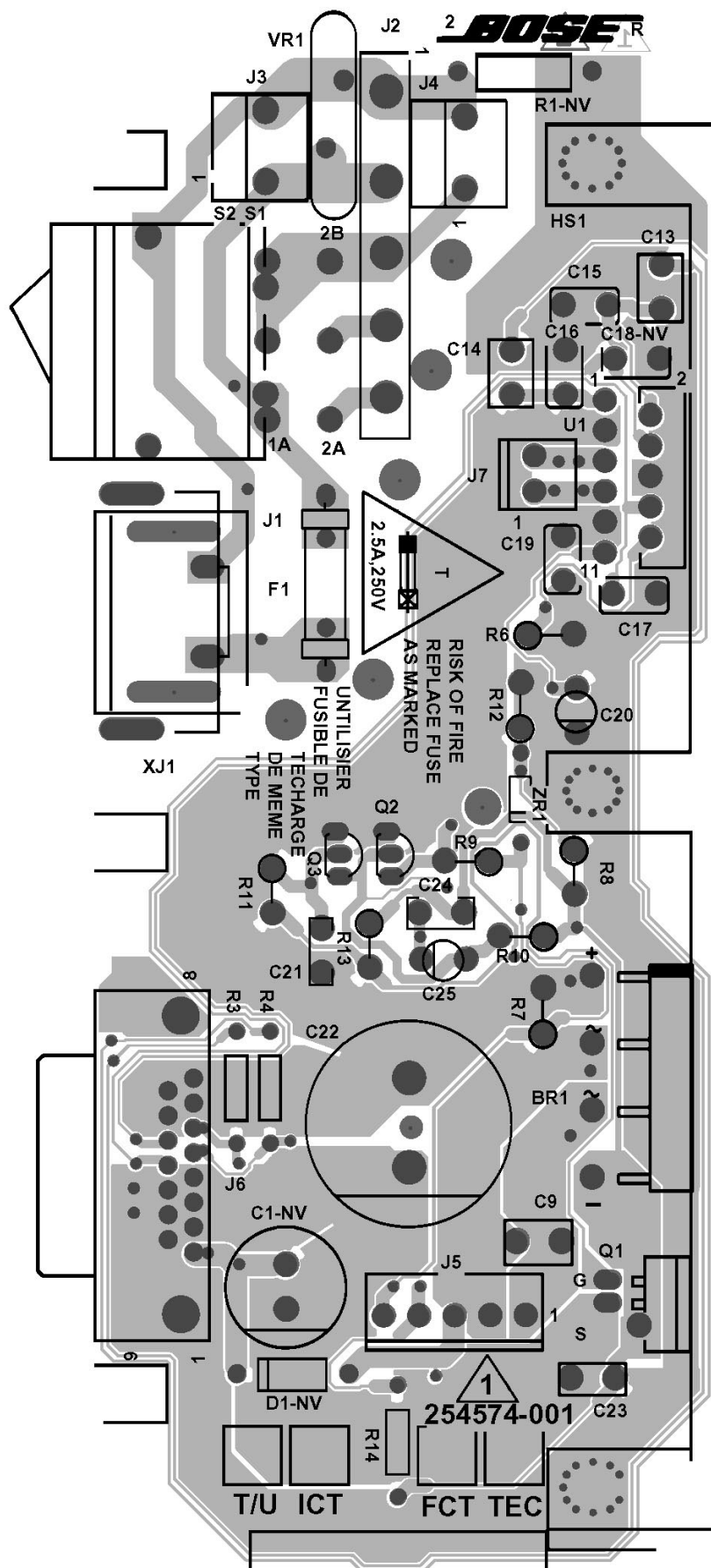


Figure 13. LCD Display PCB P/N: 254550-001 Rev. 02 and 03 Component and Bottom Etch Diagram

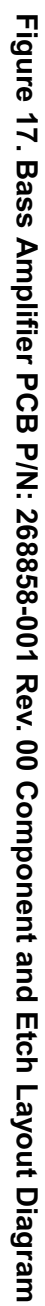
Figure 14. Bass Amplifier PCB P/N: 254574-001 Rev. 00 Component and Etch Layout Diagram





Note: PCB P/N: 266469-001 also has solder pads for C26 located next to C22.

Figure 15. Bass Amplifier PCB P/N: 254574-001 Rev. 01 Component and Etch Layout Diagram
Bass Amplifier PCB P/N: 266469-001 Rev. 00 Component and Etch Layout Diagram



GLOSSARY OF TERMS

Aspect Ratio - The shape of the rectangular picture in a TV set. It is the width of the picture relative to the height. Our standard TV picture, is 4 units wide by 3 units high, or 4:3 in aspect ratio. There are currently two standard TV aspect ratios in the U.S., 4:3 and 16:9.

Chapter - In DVD-Video, a division of a title. Technically called part of a title (PTT).

Component Video - A video system containing three separate color component signals, either red/green/blue (RGB) or chroma/color difference (YPbPr), in analog or digital form. The MPEG-2 encoding system used by DVD is based on color-difference component digital video.

Composite Video - A single video signal that contains luminance, color and synchronization information. NTSC and PAL are examples of composite video systems.

Dolby Digital® - Also known as AC-3, a type of multi-channel surround sound format used on discs. Dolby Digital is a perceptual coding system for audio, developed by Dolby Laboratories and is accepted as an international standard. Dolby Digital is the most common means of encoding audio for DVD-Video and is the mandatory audio compression system for 525/60 (NTSC) discs.

DTS - A type of multi-channel surround sound format used on some CDs and DVDs.

DVD - An acronym that is most commonly known to mean Digital Video Disc or Digital Versatile Disc. The audio/video/data storage system based on 12 and 8 cm optical discs.

DVD Video - A standard for storing and reproducing audio and video on DVD-ROM discs, based on MPEG video, Dolby Digital and MPEG audio, and other proprietary data formats.

MPEG - A type of data compression used for audio or video storage on disc.

MP3 - MPEG Layer 3 audio. This is a compressed audio format that allows you to record many hours of music on a single CD.

NTSC - An acronym for National Television System Committee; the organization that developed both the American Black & White and Color television systems.

PAL - An acronym for Phase Alternate Line. This is one of several composite video systems. The PAL format is used extensively in Western Europe.

PCM - An uncompressed, digitally coded representation of an analog signal. This is the form of the digital audio signal used for both CD and laserdisc. It is a serial data stream that is coded for transmission or recording. PCM is also used for many other types of serial data communications.

S-Video - A video interface standard that carries separate luminance and chrominance signals, usually on a four-pin mini-DIN connector. Also called Y/C. The quality of S-video is significantly better than composite video since it does not require a comb filter to separate the signals. Most high-end televisions have S-video inputs.

Title - Numbered elements of the DVD contents, which may include more than one movie alone.

YPbPr - A component analog video signal containing one luminance and two chrominance components. Often referred to loosely as YUV or Y, B-Y, R-Y.

SERVICE MANUAL REVISION HISTORY

Revision Level	Date	Description of Change	Change Driven By	Page(s) Affected
00 to 01	12/2003	1. 321GS DVD drawer bezel and bezel sub-assembly part numbers changed to the same part number standard 321 console parts. 2. DVD mechanism part numbers changed from 270013-001 to 270013-002 for US 1712 drives and from 270014 to 274366 for non-US units.	ECN 33358 ECN 33564	13
01 to 02	9/2005	1. DVD mechanism part number changed to new 1802 drive part numbers.	Part number change	13

Service Manual

3.2.1 and 3.2.1 GS Series I

Home Entertainment Systems

(US/Canada, European, UK, Australia, Japan
and Dual Voltage Versions)



SPECIFICATIONS AND FEATURES SUBJECT TO CHANGE WITHOUT NOTICE



Bose Corporation
The Mountain
Framingham Massachusetts USA 01701

Reference Number 270000-SM Rev. 02 9/2005 (H)
Service web site: <http://serviceops.bose.com>